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# ELECTROSTATIC DISCHARGE SUSCEPTIBILITY DATA

**Volume II** 

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# ELECTROSTATIC DISCHARGE SUSCEPTIBILITY DATA OF DISCRETE/PASSIVE DEVICES

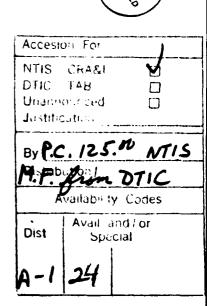
Volume II 1989

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Under contract to:

Rome Air Development Center Griffis AFB, NY 13441-5700



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#### Table 3 - MANUFACTURER LISTING

CODE	MANUFACTURER NAME	CODE	MANUFACTURER NAME
ALP	Alpha Industries	том	Motorola Semí
AM	American Microcircuits	MPI	Micropac Industries
	Advanced Micro Devices	MSC	•
AMP	Amperex Electronics	MSI	····•
	Analog Devices	N/R	Not Reported
	Anzac Electronics	NCR	National Cash Register
	ATMEL	NEC	Nippon Electric Company (NEC)
BEC	Beckman Instruments	NIT	Nitron
BEN		NSC	National Semi
CCL	Croven Crystal Ltd.	NUC	Nucleonic Prod
CEN	Centralab		Plessey
CMP	Component Device Inc.	PPC	•
COD	Codi Semiconductor	PPI	Precision Products Inc.
	Continental Semi. Inc.	PRE	Precision Monolithics
	Cypress Semiconductor		
	Dale Electronics	RAY	Raytheon
	Dynamic Control Corp	RCA	RCA
	Delco Electronics	RI	Rockwell Intl (Includes Collins)
	Dickson Elec. Corp.	SCN	Semicon
	Elec. Transistor Corp.	SEM Sen	Semtech Corp.
	Fairchild		Sensitron Semi.
GE	General Electric	SEQ	SEEQ
	General Semiconductor	SGS	SGS ATES
GI	General Instruments	SIE	Siemans
		SIG	Signetics
	Gilway Technical Lamp Harris	SIL	Silicon General
HAU	Haufman		Siliconix
HEW	Hewlett Packard	SOL	Solitron Devices
			Sprague Electric
HIT	Hitachi	SSD	Solid State Devices
	Honeywell	SSS	Solid State Scientific
	Hybrid Systems	SUP	Supertex
HYC	Hycomp Inc.	SYN	Syntron
IDT	International Device Technologies	TEC	•
111	IIT Semiconductor	TEK	Tektronix
INM	INMOS	TEL	Teledyne
	Inselek	TEX	Texas Instruments
INT	Intel	THC	Thermometrics
	Intl. Rectifier Corp.		Transition Elec. Corp.
	Intersil	TRW	
	Intech	UDT	United Detector Technology
	KSC Semiconductor Corp.	ULT	Ultronix Inc.
	Lear Siegler	UNI	Unitrode
	Linear Technology Corp.	VAR	Various
	MACOM	VIS	Vishay
	Microwave Associates	WES	Westinghouse
	McCoy Electronics	XIC	Xicor
MIT	Micro Power Systems	ZIL	Zilog
MON	Monolithic Memories		

MOS Mostek

#### Table 4 - FAILURE CRITERIA LISTING

#### CODE FAILURE CRITERIA

- 1 1 UA LEAKAGE AT 10V.
- 2 1 UA LEAKAGE AT 20V.
- 3 10 UA INPUT LEAKAGE PREVIOUSLY MEASURED TO BE 1 UA.
- 4 10% CHANGE IN ELECTRICAL PARAMETERS.
- 5 10% CHANGE IN LEAKAGE CURRENT.
- 6 10% PARAMETER CHANGE.
- 7 110= 4 UA.
- 8 2 MA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
- 9 2 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
- 10 2% CHANGE OF VOUT AT IL= 50UA.
- 11 20 UA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
- 12 200 NA LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
- 13 25% LEAKAGE, 1uA LEAKAGE, FUNCTION FAILS.
- 14 50% DROP IN REVERSE VOLTAGE AT IR= 5UA.
- 15 50% DROP IN V(BR) CBO AT IB= 5UA.
- 16 50% DROP IN V(BR) GSS AT IG= 5UA.
- 17 50% INCREASE IN GATE LEAKAGE CURRENT.
- 18 A 10% CHANGE IN INPUT OFFSET VOLTAGE AND INPUT BIAS CURRENT.
- 19 A 10% OR > CHANGE IN ANY MEASURED ELECTRICAL PARAMETER WAS CONSIDERED A FAILURE.
- 20 A 10% OR > INC. IN MEAS. LEAKAGE CURRENT @OR < A VOLT 10% < THE INITIAL BRKDWN VOLT.
- 21 A CHANGE OF 0.5% OR GREATER TOLERANCE.
- 22 A SHIFT OF 10% OF INPUT OFFSET VOLTAGE AND INPUT BIAS CURRENT.
- 23 ANY MEASURABLE CHANGE IN AN ELECTRICAL PARAMETER.
- 24 BVBE AT IR= 100NA.
- 25 CATASTROPHIC FAILURE (INPUT CURRENT).
- 26 CATASTROPHIC.
- 27 CHANGE IN IGSS.
- 28 CHANGE IN 11H OF 10%.
- 29 CHANGE IN 11H OF 20NA AT VCC= 5.5V AND VIN= 2.4V.
- 30 CHANGE IN 11H OF 500% AT VIN= 2.7V.
- 31 CHANGE IN IIL OF +500% AT VIN= .45V.
- 32 CHANGE IN IIL OF 500% AT VIN= 5V.
- 33 CHANGE IN IIO OF 500%.
- 34 CHANGE IN IL OF +500% AT VIN= 1V.
- 35 CHANGE IN IR OF +500% AT VBR= 30V.
- 36 CHANGE IN IR OF +500% AT VR= 50V.
- 37 CHANGE IN IR OF 500% AT VBR= 10V.
- 38 CHANGE IN IR OF 500% AT VR= 35V.
- 39 CHANGE IN IS OF 500% AT VS= -10V.
- 40 CHANGE IN RESISTANCE OF .1%.
- 41 CHANGE IN RESISTANCE OF 2%.
- 42 CHANGE IN VOL OF .050V AT VCC= 4.5V, IOL= 2MA AND VIN= 2.0V.
- 43 CHANGE OF 0.5% OR GREATER TOLERANCE.
- 44 CHANGED IN IV CHARACTERISTICS WITH INPUTS HIGH.
- 45 CHECK FOR ANY CHANGE IN FORWARD VOLTAGE AND REVERSE LEAKAGE CURRENT.
- 46 CUMULATIVE LEAKAGE CURRENT.
- 47 D.C. PARAMETER OUT OF SPEC.
- 48 DAMAGE TO INPUT DIODE.
- 49 DEGRADATION OF V-1 CURVE OR FUNCTIONAL FAILURE.
- 50 DEVICE CONSIDERED ESD SENSITIVE WHEN A 10%CHANGE IN ELECT. CHAR. WAS OBSERVED.
- 51 ELECTRICAL PARAMETERS OUT OF SPEC.
- 52 EXCESSIVE LEAKAGE CURRENT OR OPEN CONDUCTOR LINES.
- 53 FAILED THE DC ELECTRICAL PARAMETERS TEST LIMITS.

#### Table 4 - FAILURE CRITERIA LISTING (Cont'd)

#### CODE FAILURE CRITERIA 54 FAILED VOLTAGE IS THE AVERAGE OF PARTS SAMPLED. 55 FAILS TO MEET ELECTRICAL SPECIFICATION. 56 FUNCTION FAILURE OR D.C. PARAMETER OUT OF SPEC. 57 FUNCTIONAL FAILURE. 58 GATE CURRENT GREATER THAN 5UA AT A GATE/SOURCE VOLTAGE OF 22 VOLTS. 59 GREATER THAN .5UA INPUT AT 10V. 60 GREATER THAN 14A LEAKAGE CURRENT AT 1.5 VOLTS. 61 GREATER THAN 5UA LEAKAGE CURRENT AT 0.5 VOLTS. 62 ID= SHORT. 63 IDSS OUT OF SPEC. 64 IEB AT VEB= +6V +1000% CHANGE. 65 IEBO AT VEB= -6V +1000% CHANGE. 66 IEBO AT VEB= 2.5V +1000% CHANGE. 67 IEBO AT VEB= 3.5V 1000% CHANGE. 68 IF AC,DC,OR FUNCTIONAL PARAMETERS FAILS THE MIN. OR MAX. LIMITS. 69 IGSS AND V(BR)GSS OUT OF SPEC. 70 IGSS AT VGS= -20V +1000% CHANGE. 71 IGSS OUT OF SPEC. 72 IGSSR >25PA AT VGS= 8V AND VDS= 0V. 73 IGSSR AND IDSS OUT OF SPEC. 74 IGSSR AND VGS(TH) OUT OF SPEC. 75 IGSSR OUT OF SPEC. 76 IGSSR, VGS(TH) OR IDSS OUT OF SPEC. 77 IIH AND VR OUT OF SPEC. 78 IIH AND/OR VOL OUT OF SPEC. 79 IIH AND/OR VR OUT OF SPEC. 80 IIH OUT OF SPEC. 81 IIH, IIL, OR ISS OUT OF SPEC AT VDD=15V. 82 IIH, IIL, ISS OUT OF SPEC. 83 IIH, IIL, OR ISS OUT OF SPEC. 84 IIH, VF, OR VR OUT OF SPEC. 85 IIH= 10MA. 86 IIH= 16MA. 87 IIH= 97UA. 88 IIL OUT OF SPEC. 89 IL AT VR= .5V +300%. 90 IL AT VR= 50V +1000% CHANGE. 91 INPUT BREAKDOWN OF 5MV. 92 INPUT SHORTED TO VCC. 93 INPUTS SHORTED TO GROUND. 94 IR AND VB OUT OF SPEC. 95 IR GREATER THAN 100% CHANGE. 96 IR OUT OF SPEC. 97 IR= 300UA AT 50 VOLTS. 98 IZ AT VR= 5V +1000% CHANGE. 99 IZ AT VR= 6.5V +1000% CHANGE. 100 LEAKAGE CURRENT. 101 LIGHT OUTPUT DEGRADATION AT CONSTANT CURRENT. 102 N/R. 103 PARAMETER CHANGE OF GREATER THAN 10%.

104 PARAMETER SHIFT OF GREATER THAN 10%.

106 RESISTANCE CHANGE OF 1%.

105 PASSED FUNCTIONALLY OR DC ELECTRICAL PARAMETERS.

#### Table 4 - FAILURE CRITERIA LISTING (Cont'd)

#### CODE FAILURE CRITERIA

- 107 RESISTANCE OUT OF SPEC.
- 108 SIGNIFICANT AMOUNT OF DEGRADATION TO V-I CURVE.
- 109 SIGNIFICANT CHANGE IN THE +INPUT -GROUND V-I CURVE.
- 110 STUDY OF BREAKDOWN CHARACTERISTIC OF INPUT AND OUTPUT PINS.
- 111 TEST LEAKAGE CURRENT.
- 112 TESTED TO 2000 VOLTS PER METHOD 3015.2 OF MIL-STD-883.
- 113 V(BR)GSS OUT OF SPEC.
- 114 VB OUT OF SPEC.
- 115 VEBO= IV. TYPICALLY 5 VOLTS.
- 116 VGS(OFF) OUT OF SPEC AND IGSSR >25PA AT VGS= 8V AND VDS= 0V.
- 117 VGS(OFF) OUT OF SPEC AND/OR IGSSR >25PA AT VGS= 8V AND VDS= 0V.
- 118 VGS(OFF) OUT OF SPEC AT VDS= 15V AND ID= 50UA.
- 119 VGS(TH) AND IDSS OUT OF SPEC.
- 120 VGS(TH) OUT OF SPEC.
- 121 VR OUT OF SPEC.
- 122 WHEN ONE PULSE RESULTED IN DECREASE REV. LFAKAGE OR DECREASE IN JUNC. BRKDWN. VOLT.
- 123 WHEN ONE PULSE RESULTED IN INCREASE REV. LEAKAGE OR DECREASE IN JUNC. BRKDWN. VOLT.

#### Table 5 - TEST REMARKS LISTING

#### CODE TEST REMARKS 1 1-DEV. IR SHORT, 3-100% CHANGE, 1-25% CHANGE, 5- NO CHANGE. 5 PULSES FWD & REV. 2 1.13M OHM MODEL. 3 1.1M OHM MODEL. 1.21M OHM MODEL. 5 1.58M OHM MODEL. 6 1.69M OHM MODEL. 7 1.78M OHM MODEL. 8 10 MHZ CRYSTAL OSCILLATOR. 9 10 OHM MODEL. 10 10000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. 11 107 OHM MODEL. 12 11.8 OHM MODEL. 13 12 MHZ CRYSTAL OSCILLATOR. 14 133K OHM MODEL. 15 1400 VOLTS IS AN AVERAGE OF 3 DEVICES. 16 140K OHM MODEL. 17 15 MHZ CRYSTAL OSCILLATOR. 18 150K OHM MODEL. 19 16 MHZ CRYSTAL OSCILLATOR. 20 1625 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. 21 16300 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. 22 1900 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. 23 1M OHM MODEL. 24 2 DEVICES INCREASED IR FROM .09, .095 TO .85, .65ua. 5 PULSES FWD & REVERSE. 25 2 OUT OF 9 DEVICES TESTED FAILED. 26 2.1M OHM MODEL. 27 2.49M OHM MODEL. 2.6% OF TOTAL NUMBER OF PINS FAILED. 29 2.94M OHM MODEL. 30 20.5 OHM MODEL. 31 220 OHM MODEL. 32 232K OHM MODEL. 33 24.9 OHM MODEL. 34 240K OHM MODEL. 35 250 OHM MODEL. 36 250K OHM MODEL. 37 27.2% OF TOTAL NUMBER OF PINS FAILED. 38 270K OHM MODEL. 39 294K OHM MODEL. 40 297K OHM MODEL. 41 3.01M OHM MODEL. 42 301 OHM MODEL. 43 3200 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES. 44 330 OHM MODEL. 45 360.1K OHM MODEL. 46 38/PIN DEVICE CMOS, GATE ARRAY, SEMICUSTOM, MONOLITHIC. 47 383 OHM MODEL. 48 392K OHM MODEL. 49 4.37 OHM MODEL. 50 4.7% OF TOTAL NUMBER OF PINS FAILED. 51 400K OHM MODEL. 52 450 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.

53 47.5 OHM MODEL.

# Table 5 - TEST REMARKS LISTING (Cont'd)

CODE	TEST REMARKS
2002	IEST REMARKS
54	475 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
55	475K OHM MODEL.
56	49.9 OHM MODEL.
57	499 OHM MODEL.
58	5 PULSES APPLIED AT BOTH FORWARD AND REVERSE POLARITIES.
59	5 PULSES FORWARD, 5 PULSES REVERSE.
60	5 PULSES PER POLARITY. DEVICES HAD METAL LID.
61	50 OHM MODEL.
62	50% FAILURE RATE WITH ARCING BETWEEN LEADS.
63	5000 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
64	511K OHM RESISTOR.
65	5500 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
66	57.6 OHM MODEL.
67	590 OHM MODEL.
68	600 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
69	604K OHM MODEL.
70 71	665K OHM MODEL.
71	7 OUT OF 10 DEVICES FAILED COLLECTOR TO BASE. 768K OHM MODEL.
73	7800 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
74	850 VOLTS IS AN AVERAGE OF AN UNKNOWN NUMBER OF DEVICES.
75	ALL 10 INPUTS FAILED TO VSS AT 800 VOLTS.
76	ALL UNUSED INPUTS AT 5.5 VOLTS.
77	ALL UNUSED INPUTS AT GROUND.
78	ALSO DEGRADATION FROM COMMON TO OUTPUT OF 4000 VOLTS.
79	ALSO FAILED 4,5,7-13 TO VDD AT 500 VOLTS.
80	ALSO FAILED FROM 5,6 & 7 TO VSS AT 800 VOLTS.
81	ALSO FAILED FROM ALL OTHER INPUTS TO VSS AT 800 VOLTS.
82	ALSO FAILED FROM INPUT PINS 5,6,8-13 TO VSS AT 800 VOLTS.
83	ALSO FAILED FROM PIN 7 TO OUTPUT AT 1000 VOLTS.
84	ALSO FAILED FROM PINS 4-8 AND 11-13 TO VSS AT 800 VOLTS.
85	ALSO FAILED FROM PINS 5,6,7,11 TO VDD AT 1000 VOLTS.
<b>8</b> 6	ALSO FAILED FROM PINS 5-13 TO VSS AT 800 VOLTS.
87	ALSO FAILED FROM PINS 8-13 TO VSS AT 800 VOLTS.
88	ALSO FAILED PIN 12 TO VDD AT 500 VOLTS.
89	ALSO FAILED PIN 4 TO VDD, 5-7,9-13 TO OUTPUT AT 500 VOLTS
90	ALSO FAILED PIN 9 TO OUTPUT AT 800 VOLTS.
91	ALSO FAILED PIN 9 TO VDD AND 8 TO OUTPUT AT 1000 VOLTS.
92	ALSO FAILED PIN 9 TO VSS AT 800 VOLTS.
93	ALSO FAILED PINS 4,5 & 9 TO VSS AT 800 VOLTS.
94 95	ALSO FAILED PINS 5 AND 10 TO VDD AT 800 VOLTS. ALSO FAILED PINS 5-13 TO OUTPUT AT 500 VOLTS
96	ALSO FAILED PINS 5-13 TO VSS AT 800 VOLTS
97	ALSO INPUT TO GND DEGRADED AT 1800 VOLTS.
98	ALSO SHOWED DEGRADATION ON INPUT TO INPUT AT 2000 VOLTS.
99	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1000V.
100	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1020V.
101	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1025V.
102	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1000V.
103	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1070V.
104	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1080V.
105	AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1100V.

106 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1125V.

#### Table 5 - TEST REMARKS LISTING (Cont'd)

```
CODE TEST REMARKS
 107 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1170V.
 108 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1200V.
 109 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1310V.
 110 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1325V.
 111 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1350V.
 112 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1360V.
 113 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1600V.
 114 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1675V.
 115 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1700V.
 116 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 1750V.
 117 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2300V.
 118 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2400V.
 119 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2450V.
 120 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2500V.
 121 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2600V.
 122 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2700V.
 123 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 2900V.
 124 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3000V.
 125 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3200V.
 126 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3444V.
 127 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3500V.
 128 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3550V.
 129 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3700V.
 130 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3760V.
 131 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3000V.
 132 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 3900V.
 133 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 4550V.
 134 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 5200V.
 135 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 550V.
 136 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 600V.
 137 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 700V.
 138 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 725V.
 139 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 750V.
 140 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 800V.
 141 AVERAGE FAILURE VOLTAGE FOR ALL PINS IS 850V.
 142 AVG OF ALL INPUTS 940V, PINS 1,2,15 MOST SUSCEPTIBLE.
 143 AVG OF ALL INPUTS 960V, PIN 15 MOST SUSCEPTIBLE.
 144 AVG OF ALL INPUTS 960V, PINS 11,14 MOST SUSCEPTIBLE.
 145 BOTH POLARITIES WERE TESTED.
 146 BREAKDOWN VOLTAGE CHARACTERISTICS WERE DEGRADED.
 147 CARRY LOOK AHEAD GENERATOR.
 148 CATASTROPHIC FAILURES OBSERVED ARE DUE TO EMIT. CONTACT PENETRATING THE SILICON.
 149 CHARGED DEVICE MODEL.
 150 COLLECTOR TO BASE FOUND TO BE MOST SENSITIVE (BOTH POLARITIES).
 151 COMMON TO OUTPUT SHOWED DEGRADATION AT 4000 VOLTS.
 152 CRYSTAL (4 Mhz).
 153 DAMAGE OBSERVED AT -700 VOLTS, FAILED AT 1100 VOLTS.
 154 DAMAGE OBSERVED AT 1000 VOLTS, ALL PINS FAILED AT OR BEFORE 3500 VOLTS.
 155 DAMAGE OBSERVED AT 1050 VOLTS, ALL INPUT PINS FAILED AT OR BEFORE 2000 VOLTS.
 156 DAMAGE OBSERVED AT 150 VOLTS, ALL DEVICES FAILED AT OR BEFORE 400 VOLTS.
 157 DATE CODE TESTED WERE BETWEEN 8134 TO 8715.
 158 DEGRADATION OCCURRED AT 1000V.
 159 DEGRADATION OCCURRED AT 1500V.
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#### Table 5 - TEST REMARKS LISTING (Cont'd)

#### CODE TEST REMARKS 160 DEGRADATION OCCURRED AT 2000V. 161 DEGRADATION OCCURRED AT 3000V. 162 DEGRADATION OCCURRED AT 3500V. 163 DEGRADATION OCCURRED AT 4500V. 164 DEGRADATION OCCURRED AT THE APPLIED VOLTAGE. 165 DELAY LINE, PULSE, ELECTROMAGNETIC, LUMPED CONSTANT, 16 PIN DIP. 166 DEVICE PASSED THE REVERSE V-1 CURVE AFTER TESTING. 167 DIFFERENT PIN COMB. TESTED AT EACH VOLTAGE STEP. 168 DRIVER / RECEIVER. 169 DUAL PNP TRANSISTOR. 170 EACH PIN STRESSED WITH ALL OTHER PINS CONNECTED TO GROUND. 171 EACH PIN TESTED TO ALL CTHERS TIED TOGETHER. 172 EMITTER TO BASE FAILED AT 3500 VOLTS. 173 FAILED FROM PINS 4,8,13 TO VDD AND 10 TO OUTPUT AT 500 V. 174 FAILED INPUTS TO GND. VOLT IS AVG. OF 4 DEV. MEAN ENGY=16UJ. 175 FAILED PIN 13 TO VDD AT 500 V, 8 TO VSS, 6 TO VDD AT 800 V. 176 FAILED PIN 16 TO VDD AT 500 V & PIN 5 TO VSS AT 800 V. 177 FAILED PINS 13 TO VDD AND PIN 4 TO OUTPUT AT 800 VOLTS. 178 FAILED PINS 5-6,11-13 TO VSS 7 TO VDD & 8-10 TO OUTPUT 500V. 179 FAILED PINS 5-7,9,11 TO VSS 8,10,12 TO VDD AT 500 VOLTS. 180 FAILED PINS 5-8 & 10-13 TO VSS & PIN 9 TO VDD AT 500 VOLTS. 181 FAILED PINS 5-8 & 10-13 TO VSS AT 500V & 9 TO VSS AT 800 V. 182 FAILED PINS 8,13 TO VSS, 15 TO VSS AND 6 TO VDD, ALL AT 800V. 183 FAILED PINS 8-13 TO SS AT 300V & PINS 4,6 TO OUTPUT AT 500V 184 FAILURE VOLTAGE FROM EMP DATA & WUNSCH MODEL. (SUPERSAP 2). 185 FAILURE VOLTAGE GIVEN IS APPROXIMATE VALUE ONLY. 186 FAILURE VOLTAGE IS AN AVERAGE OF 15 DEVICES. 187 FAILURE VOLTAGE IS AN AVERAGE. 188 FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL. 189 FAILURE VOLTAGE OBTAINED FROM EMP DATA AND WUNSCH MODEL. 190 FAILURE VOLTAGE OBTAINED FROM EMP DATA. 191 FAILURES WERE DUE TO INCREASED CONTACT RESISTANCE. 192 FIVE PULSES BOTH POLARITY ACROSS EACH PIN COMBINATION. 193 FREQUENCY SYNTHESIZER. 194 HEX SCHMIDTT TRIGGER. 195 HYBRID, OSCILLATOR. 196 IMCS TO >17.5KV, PAL TESTER TO >43KV. PAL IS A MOTOROLA IN HOUSE BUILT TESTER. 197 IN MOST FAILURES, VOS STARTS FAILING FIRST. THEN, IOS, IB, AND ICC. 198 INITIAL IGSS IS 0.1 LA AND FINAL IGSS IS 10 LA. 199 INITIAL IGSS IS 3.8UA AND FINAL IGSS IS 10UA. 200 INITIAL IGSS WAS 0.14A AND FINAL IGSS WAS 1.04A. 201 INITIAL IGSS WAS 0.1UA AND THE FINAL IGSS WAS 0.7UA. 202 INITIAL IGSS WAS 1.0UA AND FINAL IGSS WAS 3.4UA. 203 INITIAL IGSS WAS 14A AND FINAL IGSS WAS 104A. 204 INPUT AND CLAMPING DIODES WERE TYPICAL FAILURES. 205 INPUT FAILED AT 2500 AND 3000 VOLTS, OUTPUT DID NOT FAIL. 206 INPUT PIN 1 FAILED AT 200V AND INPUT PIN 8 FAILED AT 300V. 207 INPUT PIN 1 FAILED AT 200V AND INPUT PIN 8 FAILED AT 400V. 208 INPUT PIN 1 FAILED AT 200V. 209 INPUT PIN 1 FAILED AT 300V. 210 INPUT PIN 1 FAILED AT 400V AND INPUT PIN 8 FAILED AT 500V.

211 INPUT PIN 1 FAILED AT 500V. 212 INPUT PIN 10 FAILED AT 300V.

# Table 5 - TEST REMARKS LISTING (Cont'd)

CODE	TEST REMARKS
213	INPUT PIN 2 FAILED AT 200V.
214	INPUT PIN 2 FAILED AT 300V.
215	INPUT PIN 2 FAILED AT 400V.
216	INPUT PIN 2 FAILED AT 500V.
217	INPUT PIN 7 FAILED AT 200V.
218	INPUT PIN 8 FAILED AT 400V.
219	INPUT PIN 9 FAILED AT 400V.
220	INPUT PINS 1 AND 8 FAILED AT 300V.
221	INPUT PINS 1 AND 8 FAILED AT 400V.
222 223	INPUT PINS 1 AND 8 FAILED AT 500V.
223	INPUT PINS 1 AND 9 FAILED AT 200V. INPUT PINS 11 AND 15 FAILED AT 200V.
225	INPUT PINS 2 AND 10 FAILED AT 200V.
226	INPUT PINS 2 AND 6 FAILED AT 200V.
227	INPUT PINS 2 AND 6 FAILED AT 300V.
228	INPUT PINS 7 AND 15 FAILED AT 300V.
229	INPUT TO COM. 3000 V, OUTPUT TO COMMON FAIL AT 1600 VOLTS.
230	INPUT TO OUTPUT DEGRADATED AT 600 VOLTS.
231	INPUTS STRESSED NO PINS GND CAP. OF PACKAGE TO GND IS 290PF.
232	INPUTS STRESSED NO PINS GND CAP. OF PACKAGE TO GND IS 3.5PF.
233	INPUTS STRESSED NO PINS GND CAP. OF PACKAGE TO GND 15 37PF.
234	INPUTS STRESSED NO PINS GND CAP. OF PACKAGE TO GND IS 3PF.
235	INPUTS STRESSED NO PINS GND CAP. OF PACKAGE TO GND 1S 6.5PF.
236	INTEL METHOD.
237	INTEL MODEL.
238	IR CHANGED FROM .045uA TO 22.JuA ON ONE DEVICE. 5 PULSES FORWARD AND REVERSE.
239	IR CHANGED FROM .103uA, 200V TO .4uA, 80 VOLTS. 5 PULSES FORWARD & REVERSE.
240	IR DOUBLED AFTER 400 VOLTS, SHORTED AFTER 500 VOLTS.
241	IR INCREASED FROM .05uA TO 148uA. 5 PULSES FORWARD, 5 PULSES REVERSE.
242	IR INCREASED FROM .19MA TO .23MA. 5 PULSES FORWARD, 5 PULSES REVERSE.
243	IR INCREASED ON 3 DEVICES; 5.4 TO 6.2uA, 3.7 TO 4.1uA, AND 4.6 TO 5.6uA.
244	JUNCTION IS DAMAGED BEFORE DEVICE FAILS ELECTRICALLY.
245	LED DEVICES WHICH HAVE REV BRKDWN DAMAGE CAUSED BY ESD MAY FUNC NORM IN FWD DIR.
246	MICROCONTROLLER.
247	, ,
248	MIMIMUM OBSERVED DAMAGE WAS 200 VOLTS ALL DEVICES FAILED AT OR BELOW 300 VOLTS.
249 250	
251	MINIMUM OBSERVED WAS 2600 VOLTS, ALL DEVICES FAILED AT OR BEFORE 3000 VOLTS.  MODULATOR.
	N/R.
253	NO DEGRADATION TO OUTPUT AT 4000 VOLTS.
254	NO DEGRADATION TO OUTPUT PINS.
	NO FAILURES OBSERVED GATE TO CATHODE.
	OF 4 DEVICES FAILURE VOLTAGE WAS FROM 1400V TO 6000 VOLTS.
	OF THE FOUR DEVICES TESTED TWO DEVICE DATE CODES WERE GIVEN AS 8615 AND 8501.
258	
259	
260	OTHER PINS TIED TO GND.
	PAL TESTER IS A MOTOROLA IN HOUSE BUILT IMCS TO >17.5KV, PAL TO >43KV.
	PIN UNDER TEST STRESSED WITH ALL OTHERS TIED TOGETHER FLOATING.
	PINS 1 AND 2 FAILED AT 1100 VOLTS.
	PINS 11-14 TO VSS,15 TO VDD AT 800V,8,13 TO OUTPUT AT 1000V.
	PINS 13 TO VSS, 9 TO VSS AT 1000V, 8 TO VDD AT 1000 VOLTS.
	·

#### Table 5 - TEST REMARKS LISTING (Cont'd)

#### CODE TEST REMARKS 266 PINS 3,4,5, AND 22 FAILED AT 1200 VOLTS. 267 PINS 8-15 TO VSS AT 500V, 11 TO OUTPUT AT 500 VOLTS. 268 PINS THAT FAILED 3,6-8,11,14,15,17-21, AND 23. 269 PRECISION MOTION CONTROLLER. 270 PROGRAMMABLE BAND PASS FILTER. 271 PROGRAMMABLE INTERVAL TIMER. 272 QUAD DEVICE, ONE DIODE PER DEVICE TESTED. 273 SEMI-CUSTOM GATE ARRAY. 274 SERIAL INPUT PLL FREQUENCY SYNTHESIZER. 275 TEST PREPARED AT 25 DEGREES C. 276 THE MOST SENSITIVE PIN TESTED IS B. 277 THE MOST SENSITIVE PIN TESTED IS G. 278 THE MOST SENSITIVE PINS TESTED ARE C TO B. 279 THE MOST SENSITIVE PINS TESTED ARE C TO E. 280 THE MOST SENSITIVE PINS TESTED ARE E TO B. 281 THE MOST SENSITIVE PINS TESTED ARE G AND D TO S. 282 THE MOST SENSITIVE PINS TESTED ARE S AND D TO G. 283 THE MOST SENSITIVE PINS TESTED ARE S AND G TO D. 284 VOLTAGE IS AN AVERAGE OF 12 RESISTORS. MEAN ENERGY OF 48UJ. 285 VOLTAGE IS AN AVERAGE OF 4 DEVICES. 286 VOLTAGE IS AN AVERAGE OF ALL INPUTS. 287 WORST CASE PINS (+) 1-4,9,10,20,23-27(-)1,10.LOT # (413,410-1). 288 WORST CASE PINS (+) 4-6,22,23,25-27 (-) 20,21. LOT # (284/006,285/008,416-3). 289 ZERO OHMS MODEL.

#### Table 6 - GENERAL REMARKS LISTING

#### CODE GENERAL REMARKS

- 1 5 PULSES +/-.
- 2 ALL PINS BUT PIN UNDER TEST CONNECTED TO GND VIA RESISTOR, VDD AND VSS GROUNDED.
- 3 BEGIN WITH 200V, INCR. 100V TO 1000V, INCR. 200V TO 2000V, INCR 500V TO 4000V.
- 4 CHARGED DEVICE MODEL.
- 5 DATA OBTAINED FROM WEIBULL PLOTS. STEPS WERE 20% OF AN UNKNOWN STARTING VOLTAGE.
- 6 DEVICE PASSED REVERSE V-1 CURVE. FORWARD AND REVERSE POLARITY TESTED.
- 7 FAILED VOLTAGE IS THE AVERAGE OF PARTS SAMPLED.
- 8 FAILURE VOLTAGE OBTAINED FROM EMP DATA AND EXPONENTIAL MODEL.
- 9 FAILURE VOLTAGES GIVEN ARE VOLTAGE TO CAUSE 30% FAILURE. DETAILS UNKNOWN.
- 10 IMCS TESTER TO >17.5KV, PAL TESTER TO >43KV. ONE PULSE PER VOLTAGE INCREMENT.
- 11 IN ACCORDANCE WITH MIL-STD-883B METHOD 3015 (CAT B), DEVICE PASSED 2000V TESTING.
- 12 MODEL 900.
- 13 N/R.
- 14 PIN COMBINATIONS AND POLARITY DIFFER FOR EACH OF THE FOUR PULSES.
- 15 PIN UNDER TEST STRESSED WITH ALL OTHER PINS TIED TOGETHER GROUNDED.
- 16 PIN UNDER TEST STRESSED WITH ALL OTHER PINS.
- 17 START 100V WITH INCREMENTS OF 100V TO 1000V. THEN INCREMENTS OF 250V TO FAILURE.
- 18 STEP STRESS TEST WAS PERFORMED HOWEVER ACTUAL VOLTAGE STEPS WERE UNKNOWN.
- 19 STEPPED FROM 1800 VOLTS TO FAILURE IN 25 VOLT INCREMENTS.
- 20 STEPPED IN 100 VOLT INCREMENTS STARTING AT 400 VOLTS.
- 21 STEPPED IN 2.5 VOLT INCREMENTS.
- 22 STEPPED IN 25 VOLT INCREMENTS.
- 23 STRESSED IN INCREMENTS OF 20% STARTING AT 16V FOR MOS DEVICES AND 70V FOR OTHERS.
- 24 TEST VOLTAGE WAS INCREMENTED FROM 100V TO 5500V IN 100V STEPS.
- 25 TESTED TO 2000 VOLTS PER METHOD 3015.2 OF MIL-STD-883.
- 26 TESTER IS A MARTIN MARIETTA IN HOUSE BUILT.
- 27 THERE WERE ALSO 100V INCREMENTS STEPPED FROM 100V TO 800V.
- 28 VOLT INCREMENTS AS FOLLOWS: 100V TO 1KV, 250V TO 3KV, 500V TO 6KV, AND 1KV TO 16KV.
- 29 VOLTAGE STEP LEVELS 100 VOLT INCREMENTS UP TO 4000 VOLTS.

# SECTION 3.2

# DISCRETE SEMICONDUCTOR SUSCEPTIBILITY TEST DATA

Part		Part ESD Mfr Clas	ESD Class	Part Description	5				Technology	>	
04-92			7	Transistor,	Transistor, Low Power, NPN	NON			Not Applicable	cable	
	Test	Test	Test Test Test		Test	Number Date Number	ber Test T	Test	Failure Test	st General	ق
	123 123	Source Date Type 421 0184 SS	Date Type 0184 SS	Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code Dev 10 N/R	1ces Result V	Capacitance Pulses Code Devices Result Voltage Pin Combination 100E-12 F 10 N/R 1 PASSED 2000 N/R	Criteria Remarks 102 252	Кешаг	13 ks
06-92		NSC	~		Transistor, Multiple, Darlington	arlington			Not Applicable	cable	
	421	0184	0184 SS	1500 Ohms 100E-12 F	100E-12 F	10 N/R	1 PASSED	2000 N/R	102	252	13
10070019-106		100	m		Diode, Rectifier, High Voltage	Voltage			Not Applicable	cable	
	436	1186	1186 SS	1500 Ohms	100E-12 F	18 N/R	4 PASSED	4000 N/R	S	252	M
13-92		NSC	7	Transistor,	Transistor, Low Power, NPN	NDN			Not Applicable	cable	
	421	0184 SS	SS	1500 Ohms 100E-12 F	100E-12 F	10 N/R	1 PASSED	2000 N/R	102	252	13
1M1095		TEX	m	Diode, Rect	Diode, Rectifier, High Power	Power			Not Applicable	cable	
	050	N/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	12868 N/R	102	189	13
1N1124A		SYN	z	Thyristor, SCR	SCR				Not Applicable	cable	
	020	<b>3</b> 2	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	31200 N/R	102	188	13
1N1126A		SYN	2	Thyristor, SCR	SCR				Not Applicable	cable	
	050	N/R	ν/ Α/	1500 Ohms	100E-12 F	1 N/R	1 FAILED	93741 N/R	102	189	13
1N1202A		N/R	M	Diode, Rect	ectifier, High Power	Power			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	55813 N/R	102	188	13

Part Number (Cor 1N1202A	(Cont'd)	Part B	ESD Class		Description Diode, Rectifier, High Power	Ower			Technology Not Applicable	ay icable	
	Test	Tesi ce Date	r Test	Test Test Test Source Date Type Resistance	Test Capacitance	Number Date Number Pulses Code Devices	Test Result	Test Voltage Pin Combination	Failure Test Critoria Romarks		General
	030	χ Σ	₹ K	1500 Ohms	100E-12 F	1 N/R			103		13
1N1202A		BEN	Z	Diode, Rec	Diode, Rectifier, High Power	OWEL			Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	90397 N/R	102	189	13
1N1204A		N/N	Z	Diode, Reci	Diode, Rectifier, High Power	ower			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	108139 N/R	102	184	13
1N1206		SYN	z	Diode, Rect	Diode, Rectifíer, High Power	ower			Not Applicable	cable	
	050	N N	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	92874 N/R	102	189	13
1N1614		N/R	z	Thyristor,	SCR				Not Applicable	cable	
	059	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	70874 N/R	102	188	13
1N1615		SYN	z	Thyristor,	SCR				Not Applicable	cable	
	059	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	88705 N/R	102	189	13
1N1733A		TRU	z	Diode, Rect	tifier, High Voltage	oltage			Not Applicable	cable	
	059	X/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	32958 N/R	102	189	13
1N2158		SYN	z	Diode, Rect	tifier, High Power	омег			Not Applicable	cable	
	050	N/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	1 FAILED 146345 N/R	102	189	13

Part Number		Part ESD Mfr Clas	ESD	Part Description	_				Technology	<u>&gt;</u>	
1N21B			-		owave				Not Applicable	cable	l
	Test	Tes	Test Test Test	Test	Test	Number Date Number Test	er Test Te	Test	Failure Test	st Ge	General
	029	N/R	N/R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	N/R 1 FAILED 1193 N/R	102 189	189	13
1N21C		ALP		Diode, Microwave	owave				Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1550 N/R	102	189	51
1N21E		ALP	-	Diode, Microwave	owave				Not Applicable	cable	
	050	N/R	χ Υ	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1579 N/R	102	189	13
INZIF		ALP	-	Diode, Microwave	owave				Not Applicable	cable	
	050	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	1334 N/R	102	189	13
1N21WE		ALP	-	Diode, Microwave	owave				Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1266 N/R	102	189	51
1N21WE		MAC	-	Diode, Microwave	owave				Not Applicable	cable	
	394	048	0485 SS	1500 Ohms	100E-12 F	1 N/R	1 FAILED	400 N/R	8	240	59
1N23B		ALP	-	Diode, Microwave	owave				Not Applicable	cable	
	029	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	1193 N/R	102	189	13
1N23D		ALP	-	Diode, Microwave	owave				Not Applicable	icable	
	020	N/R	χ %	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1033 N/R	102	189	13

Part Number		Part ESD Mfr Clas	ESD Class	Part Description	C				yeological	à	
1N23E					crowave				Not Applicable	icable	ł
	Test	t Tes	st Tes	Test Test Test	Test	Number Date Number Test	4	Test	Failure T	Test Ge	General
	88	029 N/R N	N X	1500 Ohms	100E-12 F	1 N/R 1	FAILED	1550 N/R	102 189	189	Remarks 13
1N23F		ALP	*~	Diode, Mic	crowave				Not Applicable	icable	
	059	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	943 N/R	102	189	13
1N23G		ALP	-	Diode, Microwave	crowave				Not Applicable	icable	
	020	N/R	X/R	1500 ohms	100E-12 F	1 N/R	1 FAILED	870 N/R	102	189	13
1N23RF		ALP	-	Diode, Microwave	Crowave				Not Applicable	icable	
	029	N/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	915 N/R	102	189	13
1N23WE		ALP	•		Diode, Micro⊌ave, Point Contact	Contact			Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	508 N/R	102	189	13
1N23WE		X X	-		Diode, Microwave, Point Contact	Contact			Not Applicable	cable	
	026	0178	8 SS	100 Ohms	200E-12 F	1 N/R	4 FAILED	56 C(+) A(-)	89	285	21
1425		ALP	m	Diode, Microwave	Crowave				Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	4812 N/R	102	189	13
1N251		ALP	8		Diode, Small Signal, General Purpose	neral Purpose			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	2233 N/R	102	189	13

Part		Part E	ESD	Part Description	_				Technology		
11253			Z	Thyristor,	SCR				Not Applicable	able	
	Test	Test	Test Test Test	Test	Test	Number Date Number Test		lest	failure Test		al.
	20 Sour	Source Date 029 N/R	E Type	Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code Devi	Code Devices Result Vo	Voltage Pin Combination 23347 N/R	Criteria Red 102	Remarks Remarks 189 13	3 ks
1N25A		ALP	7	Diode, Microwave	·owave				Not Applicable	able	
	020	X X	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3402 N/R	102	189	13
1N2701		11	2	Diode, Rect	Diode, Rectifier, High Power	Ower			Not Applicable	sable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	2624 N/R	102	189	13
1N277		N/R	-	Diode, Smal	Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	able	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1792 N/R	102	189	13
1N2804B		N/R	m	Diode, Zene	Diode, Zener, Voltage Regulator	gulator			Not Applicable	:ab( e	
	030	N/R	<b>X</b> /R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N2813B		N/R	m	Diode, Zene	Diode, Zener, Voltage Regulator	gulator			Not Applicable	able	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N28168		N N	m	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N2818		<b>£</b> 01	z	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007	018	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	5

Part Number 1N2831		Part ESD Mfr Clas	ESD Class	Part <u>Description</u> Diode, Zene	Part Description Diode, Zener, Voltage Regulator	gulator			Technology Not Applicable	gy icable	1
	Test Source 400	ဗ္ဗ	Test Test Test Oate Type Resi 0188 SS 1500	Test Resistance 1500 Ohms	Test No <u>Capacitance Pu</u> 100E-12 F	Number Date Number Test Pulses Code Devices Resu 400 N/R 10 PASS	<b>±</b> 1 Ω	Voltage Pin Combination CATHODE TO CATHODE	Failure Test <u>Criteria Remarks</u> 123 0	Test Gen Remarks Rem 0	General Remarks 10
1N2837	007	MOT 1	z «	Diode, Zene 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	gulator 400 N/R	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	icable 0	10
1N2846	007	MOT 1287	z S	Diode, Zene 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	gulator 400 N/R	10 FAILED	40000 ANODE TO CATHODE	Not Applicable	icable 0	10
1N2892	007	MOT	<b>x</b> SS	Diode, Zene 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	gulator 400 N/R	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	icable 0	01
1N2929A	029	CEN N/R	3 X/R	Diode, Mi 1500 Ohms	crowave, Tunnel 100E-12 F	1 N/R	1 FAILED	8063 N/R	Not Applicable	icable 189	13
1N2970B	029	CEN N/P	x x	Diode, Zene 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	gulator 1 N/R	1 FAILED	144367 N/R	Not Applicable 102 189	icable 189	13
1N2984B	029	CEN N/R	z α z	Diode, Zene 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F	gulator 1 N/R	1 FAILED	211692 N/R	Not Applicable	icable 189	13
1N2985B	029	CEN N/R	x x		Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	gulator 1 N/R	1 FAILED	1 FAILED 120865 N/R	Not Applicable	icable 189	13

Part		Part E	ESD	Part Description				Technology	λb	
1N2985RB			z		egulator			Not Applicable	icable	i
	Test Source 029	<b>9</b>	Test Test Test Date Type Resi N/R N/R 1500	Stance Ohms	Test Number Date Number Test  Capacitance Pulses Code Devices Result  100E-12 F 1 N/R 1 FAILED		Test Voltage Pin Combination 152760 N/R	Failure Test Criteria Remarks 102 189	est Gen emarks Rem 189	General Remarks 13
1N29888	029	CEN N/R	Z Z Z	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	155728 N/R	Not Applicable	icable 189	13
1N2989B	029	N/R N/R	z 2 z	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	161151 N/R	Not Applicable	icable 189	13
1N2991B	029	CEN N/R		N Diode, Zener, Voltage Regulator N/R 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	1 FAILED 176527 N/R	Not Applicable 102 189	icable 189	13
1N3015B	029	CEN N/R	z ×	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	191984 N/R	Not Applicable	icable 188	13
1N3017B	<b>6</b> 20	CEN N/R	x x	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	96791 N/R	Not Applicable 102 189	icable 189	13
1N3019B	029	CEN N/R	z z	N Diode, Zener, Voltage Regulator N/R 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	1 FAILED 154045 N/R	Not Applicable	icable 189	13
1 <b>N</b> 3020	700	MOT 0188	3 SS	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	<b>,</b>	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	icable 0	10

Part			و	Part	•				-		
1N3022			Z Z	Diode, Zener	Diode, Zener, Voltage Regulator	legulator			Technology Not Applic	Technology Not Applicable	
	Source 400	t Test Test Test Coc	Test Type SS	Test Test Test Test Source Date Type Resistance 400 0188 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Pulses 400	비유	Test Voltage Pin Combination 43000 ANODE TO CATHODE	Failure Test <u>Criteria Remau</u> 123	s s	General Remarks 10
1N30228		N/R	z	Diode, Zen	Diode, Zener, Voltage Regulator	legulator			Not App	Not Applicable	
	050	N/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	110268 W/R	102	189	13
1N3023		MOT	Z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not App	Not Applicable	
	700	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3024		MOT	2	Diode, 2en	Diode, Zener, Voltage Regulator	egulator			Not App	Not Applicable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
1N3025		MOT	Z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	licable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
1N3025B		N/R	m	Diode, Zen∗	Diode, Zener, Voltage Regulator	egulator			Not Applicable	licable	
	030	¥/R	R/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	15000 N/R	103	252	13
143026		MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	(icable	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	5
1N3027		MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	licable	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10

Fart		Part ESD Mfr Cla	y.	Part Description	c				Technology	>	
1N3028				Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	ı
	Test	Test Test Test	Test	Test	Test		•		Failure Test	st Gen	General
	007	0188	S S	2001'CE 1908   1500 Ohms 400   1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0 10	5 2 2
1N3030		MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3031B		N/R	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	020	N/R	<b>X</b> /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	156428 N/R	102	189	13
1N3032		MOT	2	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3034		MOT	2	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3035B		CEN	2	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	050	N/R	α/ χ	1500 Ohms	100E-12 F	1 N/R	1 FAILED	194957 N/R	102	188	13
1N3037		MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	0
1N3O37B		CEN	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	020	N/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	202154 N/R	102	189	13

Part		Part ESD Mfr Class	Part S Description	i joo				Technology	>	
1N30408				Diode, Zener, Voltage Regulator	e Regulator			Not Applicable	icable	ı
	Test	t Test Test Test	st Test		Number	Test	Test	Failure Test		General
	050 050	Source Date Type Resistance 029 N/R N/R 1500 Ohms	pe Resistar R 1500 Ohm	nce Capacitance	Pulses 1	Code Devices Result N/R 1 FAILED	Voltage Pin Combination 247209 N/R	Criteria Remarks 102 189		Remarks 13
1N3044		FOF	N Diode, Z	Diode, Zener, Voltage Regulator	e Regulator			Not Applicable	icable	
	007	0188 SS	1500 Ohms	ns 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3047B		IRC A	N Diode, 2	Diode, Zener, Voltage Regulator	e Regulator			Not Applicable	icable	
	050	N/R N/R	R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	71606 N/R	102	189	13
1N3048		¥01	N Diode, 2	Diode, Zener, Voltage Regulator	e Regulator			Not Applicable	icable	
	700	0188 SS	1500 Ohms	IS 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	<b>£</b>
1N3049		MOT	N Diode, Z	Diode, Zener, Voltage Regulator	e Regulator			Not Applicable	icable	
	007	0188 SS	1500 Ohms	IS 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO C⊦THODE	123	0	10
1N3064		R/R	3 Diode, S	mall Signal,	Diode, Small Signal, General Purpose			Not Applicable	icable	
	020	N/R N/R	R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	8812 N/R	102	188	13
1N3064		RAY	N Diode, S	imall Signal,	Diode, Small Signal, General Purpose			Not Applicable	icable	
	050	N/R N/R	R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	23216 N/R	102	189	13
113154		MOT .	N Diode, Z	Diode, Zener, Voltage Regulator	e Regulator			Not Applicable	icable	
	007	0188 SS	1500 Ohms	ns 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10

Part Number		Part ESD Mfr Cla	ESD	Part Description	-				Technology	À	
113155			~		Diode, Zener, Voltage Reference	eference			Not Applicable	icable	ļ
	Source 030	Source Date	t Test E Type N/R	Test Test Type Resistance N/R 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Pulses Code Devices 1 N/R	er Test T ces Result V 1 FAILED	Test Test Number Date Number Test Test  Resistance Capacitance Pulses Code Devices Result Voltage Pin Combination 1500 Ohms 100E-12 F 1 N/R 1 FAILED 15000 N/R	Failure Test General Criteria Remarks Remarks 103 252 13	est Gen emarks Rem 252	General Remarks 13
1N3157	020	DIC N/R	z α z		Diode, Rectifier, High Voltage 1500 Ohms 100E-12 F 1 1	/oltage 1 N/R	1 FAILED	1 FAILED 185703 N/R	Not Applicable	icable 188	13
1N3157	700	£	T N 0188 SS		Diode, Rectifier, High Voltage 1500 Ohms 100E-12 F 400	/oltage 400 N/R	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	icable 0	10
1N3189	029	GE N/R			Diode, Rectifier, High Power 1500 Ohms 100E-12 F	ower 1 N/R	1 FAILED	71986 N/R	Not Applicable	icable 189	13
143191	029	N/R N/R	Z 2/		Diode, Rectifier, High Power 1500 Ohms 100E-12 F	Power 1 N/R	1 FAILED	26595 N/R	Not Applicable	icable 188	13
1N3323B	232	N/R N/R	x x		Diode, Zener, Voltage Regulator N/R Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	22943 N/R	Not Applicable	icable 184	51
1N34A	029	N/R	1 N/R		Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	1672 N/R	Not Applicable	icable 189	13
1N3504	436	E S	c 3 0588 SS	Diode, Zener 1500 Ohms 100E-12 F	er 100E-12 F	18 8790	6 PASSED	4000 N/R	Not Applicable 5 252	icable 252	M

Part		Part ESD Mfr Clas	ESD	Part Description	c				Technology	>	
1N3595			~		ll Signal, Ger	Signal, General Purpose			Not Applicable	cable	<u> </u>
	Test	t Test		: Test	Test	Number Date Number	Test	Test Valence Die Combination			General
	8	029 N/R		N/R 1500 Ohms	100E-12 F	1 N/R 1	FAILED	14356 N/R	102	188	13
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	13 PASSED	4000 N/R	\$	252	m
113595		<b>*</b> /₩	ю		Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	cable	
	232	N/R	X X	N/R Ohms	100E-12 F	1 N/R	1 FAILED	4440 N/R	102	184	13
113600		FSC	m		Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	9476 N/R 7312 N/R	102 102	189	£1 £1
1N3600		N/R	m	Diode, Sma	Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	9558 N/R	102	88	13
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	9000 N/R	103	252	13
	232	X X	M R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	2787 N/R	102	<b>48</b> 1	13
1N3600		VAR	8		Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	cable	
	705	0887	ss 2	1500 Ohms	100E-12 F	S N/R	5 FAILED	10000 N/R	89	252	5
1N3677		MOT	æ	Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10

Part		Part ESD	Part Secripti	ç				Technology		
1N3684			Diode, Ze	ner				Not Applicable	able	
	Test		Test Test Test	Test	Number Date Number Test		Test	Failure Test	t General	ral
	Source 400	ce Date I	Date Type Resistance 0188 SS 1500 Ohms	Capacitance 100E-12 F	Pulses Code Devi	Devices Result V	Voltage Pin Combination 43000 ANODE TO CATHODE	Criteria Ren 123	Remarks Remarks 0 10	지 의 단
1N3821		MOT	N Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	able	
	007	0188 SS	ss 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3821A		010	N Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	able	
	050	N/N/	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	103218 N/R	102	189	13
1N3822		MOT	N Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	able	
	007	0188 SS	ss 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	196	9
1N3823		MOT	N Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	able	
	007	0188 SS	SS 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3824		MOT	N Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	able	
	007	0188 SS	SS 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3826		MOT	N Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	abl e	
	700	0188 SS	SS 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	0
1N3826A		WSC.	3 Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	:able	
	927	1186 SS	SS 1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	2	252	m

Part Number		Part	ESD	Part Description	CO				Technology	>	
1N3827			Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	ı
	ource 400	t Test	t Test	ource Date Type Resistance 400 0188 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Result 400 N/R 10 PASSED		Test Voltage Pin Combination 43000 ANODE TO CATHODE	Failure Test Criteria Remarks 123 0	Test General Remarks Remarks 0 10	eral arks 10
1N3828		MOT	2		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	007		0188 SE	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	<b>5</b>
1N3828A		N/R	2	Diode, Ze	Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	92159 N/R	102	189	13
1N3891		MOT	Z	Diode, Rectifier,	ctifier, Fast	Fast Recovery			Not Applicable	cable	
	700	0188	s ss	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N3891		SCN	m	Diode, Re	Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	2 PASSED	4000 N/R	2	252	m
1N3893		SCN	M	Diode, Re	Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	436	118	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED 5 PASSED 5 PASSED	4000 N/R 4000 N/R 4000 N/R	יטיטיט	252 252 252	<b>m</b> m m
1N3910		N/R	м	Diode, Re	Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	030	N/R	N/R	1500 онт	100E-12 F	1 N/R	1 FAILED	12000 N/R	103	252	13

Part			ESD							;	
1N4003		<u> </u>	2		Diode, Rectifier, High Power	Power			Not Applicable	cable	
	Test Source 029	ce Date	Test Test Date Type N/R N/R	Test Test Test Test Source Date Type Resistance 029 N/R N/R 1500 Ohms	Test Number nce Capacitance Pulses ns 100E-12 F 1	Number Date Number Pulses Code Devices 1 N/R	umber Test Tevices Result V	Date Number Test Test Code Devices Result Voltage Pin Combination N/R 1 FAILED 35426 N/R	Failure Test  Criteria Remarks 102 189	Test Ge Remarks Re 189	General Remarks 13
1N4004		N/R	М		Diode, Rectifier, High Power				Not Applicable	cable	
	030	N/N	N/R	1500 Ohms	ns 100E-12 F	1 N/R	1 FAILED	7000 N/R	103	252	13
114005		MOT	2	Diode, R	Diode, Rectifier, High Power	Power			Not Applicable	cable	
	020	X X	X X	1500 Ohms	ns 100E-12 F	1 N/R	1 FAILED	3697 N/R	102	188	13
114006		MOT	8		Diode, Rectifier, High Power	Power			Not Applicable	cable	
	020	N/R	X R	1500 Ohms	ns 100E-12 F	1 N/R	1 FAILED	5369 N/R	102	188	13
1N4007		MOT	z	Diode, F	Diode, Rectifier, High Power	Power			Not Applicable	cable	
	007	0188	0188 SS	1500 Ohms	ns 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N4099		Z Z	M	Diode, 2	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	ns 100E-12 F	1 N/R	1 FAILED	7871 N/R	102	184	13
	026	0178	8 SS	100 Ohms	ns 200E-12 F	1 N/R	4 FAILED	6000 C(+) A(-)	8	285	13
	705	078	0787 ss	1500 Ohms	ns 100E-12 F	5 N/R	5 FAILED	10000 N/R	89	252	13
1N4100		N/R	8	Diode, 7	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	ns 100E-12 F	1 N/R	1 FAILED	7854 N/R	102	184	13

Part Number		Part ESD Mfr Cla	ESD Class		6				Vecloadset	è	
184101			٣		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	1
	Test	t Test	Test	Test Test Test		Number Date Number	mber Test	Test	Failure To	Test Ge	General
	3 25	N/R	<u> </u>	232 N/R N/R N/R Ohms	100E-12 F	Pulses Code De	vices Result 1 FAILED	Pulses Code Devices Result Voltage Pin Combination 1 N/R 1 FAILED 7838 N/R	Criteria Remarks 102 184	emarks Re 184	Remarks 13
1144103		N/R	M		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	15000 N/R	103	252	13
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	7590 N/R	102	184	13
1N4103		MOT	2	Diode, Zer	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	007	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
1N4104		MOT	z	Diode, Zer	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	007	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
184105		MOT	z	Diode, Zer	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	700	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N4108		MOT	z	Diode, Zer	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	007	0188	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
184109		MOT	z	Diode, Zer	Diode, Zener, Voltage Regulator	≀egulator			Not Applicable	cable	
	400	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10

Part		Part ESD Mfr Cla	ESD	Part Jescription	ç				Technology	>	
114111			Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	Source 400	t Test rce Date 1287	t Test E Iype 7 SS	Test Test Test Test Source Date Type Resistance 400 1287 SS 1500 Ohms	Test Capacitance 100E-12 F	Test Number Date Number Test Capacitance Pulses Code Devices Result 100E-12 F 400 N/R 10 FAILED		Test Voltage Pin Combination 40000 ANODE TO CATHODE	Failure Test General <u>Criteria Remarks Remarks</u> 122 0 10	st General Marks Remo	General Remarks 10
184112	232	N/R N/R	3 N/R		Diode, Zener, Voltage Regulator N/R Ohms 100E-12 F 1 N	egulator 1 n/R	1 FAILED	7608 N/R	Not Applicable	cable 184	13
184113	007	MOT 0188	<b>x</b> 8 SS		Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	egulator 400 N/R	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	cable 0	10
114114	232	N/N N/N	x 3	Diode, Zend N/R Ohms	Diode, Zener, Voltage Regulator N/R Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	7562 N/R	Not Applicable 102 184	cable 184	13
114,116	232	N/N N/N	3 X/R		Diode, Zener, Voltage Regulator N/R Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	7471 N/R	Not Applicable 102 184	cable 184	5
114116	007	<u>S</u>	17 N 0188 SS		Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	egulator 400 N/R	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	cable 0	0
1N4118	700	웊	T N 1287 SS		Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	egulator 400 N/R	10 FAILED	40000 ANODE TO CATHODE	Not Applicable	cable 0	10
114120	007	윤	1287 SS		Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	egulator 400 N/R	10 FAILED	40000 ANODE TO CATHODE	Not Applicable	cable 0	01

٥	General S Remarks 4 13	2 13	a)	13	đi.	0 10	4.	÷ 51	4.	13	<b>5</b> .	13	<u>.</u>	13
ogy Licable	Test Remarks 184	252	Licable	184	Licable	J	Licable	184	licable	184	licable	184	licable	184
Technology Not Applicable	Failure Test Criteria Remarks 102 184	89	Not Applicable	102	Not Applicable	122	Not Applicable	102						
	Number Date Number Test Test Pulses Code Devices Result Voltage Pin Combination 1 N/R 1 FAILED 7337 N/R	10000 N,K		7271 N/R		40000 ANODE TO CATHODE		7142 N/R		7057 N/R		6973 N/R		6891 N/R
	Number Test Devices Result	5 FAILED		1 FAILED		10 FAILED		1 FAILED		1 FAILED		1 FAILED		1 FAILED
Regulator	Number Date Number Pulses Code Devices 1 N/R	5 N/R	Regulator	1 N/R	legulator	400 N/R	legulator	1 N/R	legulator	1 N/R	egulator	1 N/R	egulator	1 N/R
Part <u>Oescription</u> Diode, Zener, Voltage Regulator	Test Capacitance 100E-12 F	100E-12 F	Diode, Zener, Voltage Regulator	100E-12 F	Diode, Zener, Voltage Regulator	100E-12 F	Diode, Zener, Voltage Regulator	100E-12 F	Diode, Zener, Voltage Regulator	100E-12 F	Diode, Zener, Voltage Regulator	100E-12 F	Diode, Zener, Voltage Regulator	100E-12 F
Part <u>Description</u> Diode, Zenel	Test Test <u>Iype Resistance</u> N/R N/R Ohms	1500 Ohms	Diode, Zene	N/R Ohms	Diode, Zene	1500 Ohms	)iode, 2ene	N/R Ohms	Jiode, Zene	N/R Ohms	Jiode, Zene	N/R Ohms	oiode, Zene	N/R Ohms
ဖွူ က	Test Test Type Resis N/R N/R		m	N/R	z	SS	ĸ	N/R	ω	N/R	3 6	N/R	3	X X
Part ESD Mfr Clas N/R	Test e Date N/R	0787 SS	N/R	N/R	MOT	1287	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/N
(Cont.d)	Test Source 232	705	-	232	~	007	2	232	2	232	z	232	z	232
Part Number ( 1N4120			114121		184122		1N4123		1N4124		114125		1N4126	

Part		Part ESD Mfr Clas	ESD	Part Description	5				Technology	>	
1N4127			~	Diode,	Zener, Voltage Regulator	Regulator			Not Applicable	cable	}
	Test	Test Test Test Test Source Date Ivoe Resis	t Test		Test Capacitance	Test Test Number Date Number Test Resistance Capacitance Pulses Code Devices Resul	mber Test T	Test Test Result Voltage Pin Combination	Failure Test Criteria Remarks	st Ger marks Ref	General Remarks
	232	%   ×   ×	Z X		s 100E-12 F	1 N/R	1 FAILED	6790 N/R	102	184	13
114128		<b>X</b> OT	Z		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	007	018	0188 SS	1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
114128		N/R	3		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	s 100E-12 F	1 N/R	1 FAILED	6671 N/R	102	184	13
114129		N/R	3		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	N/R	X X		N/R Ohms 100E-12 F	1 N/R	1 FAILED	6671 N/R	102	184	13
114130		N/R	2		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	X X	N/R	N/R Ohms	s 100E-12 F	1 N/R	1 FAILED	6555 N/R	102	184	13
184131		N/R	3	Diode,	Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	N/N	N/R	N/R Ohms	s 100E-12 F	1 N/R	1 FAILED	6423 N/R	102	184	13
184131		MOT	Z		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	700	918	0188 SS	1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	5
114132		N/R	м	Diode,	Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	232	N/R	<b>8/8</b>	N/R Ohms	is 100E-12 F	1 N/R	1 FAILED	6294 N/R	102	184	13

Part			os:									
1N4134		<u> </u>	<u>crass</u> 3		tion Pener	/ol tage	Diode Zener Voltage Regulator			Technology	35	1
			Ì				0.8556.2			Not Applicable	cable	
	Test	Test	: Test	Test Test Test		•		Test	Test	Failure Test		General
	Soci	ဗျ	IVE 1	Resi		Capac i tance	Pulses Code Devices	Result	Voltage Pin Combination	Criteria Remarks		Remarks
	232	N/R	N/N	N/R Ohms		100E-12 F	1 N/R	FAILED	6135 N/R	102		13
114148		FSC	-	Diode, Smal	Small Si	gnal, G	'l Signal, General Purpose			Not Applicable	cable	
	620	N/R		N/R 1500 Ohms		100E-12 F	1 N/R	1 FAILED	1189 N/R	102	188	13
0		9	,		:							
1N4148		MSC	M		small Si	gnal, G	Diode, Small Signal, General Purpose			Not Applicable	cable	
	736	1186 SS	SS	1500 Ohms	s 100E-12	:-12 F	18 N/R	48 PASSED	4000 N/R	2	252	3
114148		N/R	M		mall Si	gnal, G	Diode, Small Signal, General Purpose			Not Applicable	cable	
	030	N/R	X X	1500 Ohms	is 100E-12	-12 F	1 N/R	1 FAILED	4500 N/R	103	252	5
184148-1		N/R	m	Diode, S	mall Si	gnal, G	Diode, Small Signal, General Purpose			Not Applicable	cable	
	030	X R	X/R	N/R 1500 Ohms	s 100E-12	-12 F	1 N/R	1 PASSED	15300 N/R	103	252	51
144148-1		FSC	2		mall Sig	gnal, G	Diode, Small Signal, General Purpose			Not Applicable	cable	
	394	0485	SS	1500 Ohms	s 100E-12	-12 F	10 N/R	11 PASSED	4000 N/R	95	252	59
1N4148-1		<b>M</b> SC	2		mall Sig	gnal, G	Diode, Small Signal, General Purpose			Not Applicable	cable	
	736	1136 SS	SS	1500 Ohms	s 100E·12	·12 F	16 N/R	65 FAILED	3000 CATHODE TO ANODE	2	252	m
184150		Z /Z	8	Diode, Small	mall Się	gnal, Ge	Signal, General Purpose			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms		100E-12 F	1 N/R	1 FAILED	2787 N/R	102	184	13

Part	()	Part ESD	Part	ç				Technology	,	
1	7			l Signal,	General Purpose			Not Applicable	able	
	Test	Test To	Test Test Test Date Type Resistance	Test Capacitance	Number Pulses	oer Test To ices Result Vo	Date Number Test Code Devices Result Voltage Pin Combination	Failure Test Criteria Remarks	st General narks Remarks	- s
	736	38 18890 1	SS 1500 Ohms		18	5 FAILED	4000 CATHODE TO ANODE	2	252	m
	436	SS 8870	s 1500 Ohms	100E-12 F	18 N/R	19 FAILED	4000 CATHODE TO ANODE	\$	252	~
	436	1186 SS	S 1500 Ohms	100E-12 F	18 N/R	19 PASSED	4000 N/R	5	252	M
184150		<b>W</b> SC	3 Diode, Sma	ıll Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	able	
	436	1186 SS	.s 1500 ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	5	252	8
1N4150-1		GE	N Diode, Sma	Diode, Small Signal, Switching	4i tching			Not Applicable	able	
	026	0178 SS	s 100 ohms	200E-12 F	1 N/R	4 FAILED	3875 C(+) A(-)	06	285 1	13
1N4150-1		I NO	3 Diode, Small Signal, Switching	ıll Signal, Sı	witching			Not Applicable	cable	
	436	0588 SS	is 1500 ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	M
1N4150-1		MSC	3 Diode, Sma	Diode, Small Signal, Switching	witching			Not Applicable	able	
	736	1186 SS	s 1500 ohms	100E-12 F	18 N/R	13 PASSED	4000 N/R	50	252	~
1N4150-1		N/R	3 Diode, Sma	Diode, Small Signal, Switching	witching			Not Applicable	sable	
	030	N/R	N/R 1500 Ohms	10012 F	1 N/R	1 FAILED	4500 N/R	103	252	5
14151		N/R	N Diode, Sma	ıll Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	cable	
	048	M/R S	SS 100 Ohms	218E-12 F	1 N/R	1 PASSED	3000 N/R	71	252 3	23

Part Number		Part	ESD	Part Description	S				Technology	>	
114152			~		all Signal, G	Diode, Small Signal, General Purpose		a diameter	Not Applicable	icable	1
	Test	t Test	t Test	Test Test	Test	Number Date	Test	Test	Failure T	Test Ger	General
	Sour	Source Date	e IVR	Type Resistance		Pulses Code	Devices Result	Voltage Pin Combination	Criteria Remarks		Remarks
	059	N/R	N/R	1500 Ohms	100E-12 F	1 N/R		4077 N/R	102		13
184153-1		N/R	2		all Signal, G	Diode, Small Signal, General Purpose			Not Applicable	icable	
	232		N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	2625 N/R	102	184	5
147.157-1		į	•			-			,	;	
1-6614NI		5	-		ali Signal, G	Diode, Small Signal, General Purpose			Not Applicable	icable	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	M
	436		1186 SS	1500 Ohms	100E-12 F	14 N/R	5 FAILED	2000 CATHODE TO ANODE	5	252	M
1N4154		FSC	2	Diode, Sma	ıll Signal, G	Diode, Small Signal, General Purpose			Not Applicable	icable	
	020	N/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	3293 N/R	102	188	13
1N416G		N/8/	-	Diode, Microwave	TOKE				Not Applicable	de	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1910 N/R	102	189	51
1N4244		FSC	-	Diode, Sma	ill Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	cable	
	029	N/R	N /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1418 N/R	102	188	13
11429		CEN	z	Diode, Zen	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	22809 N/R	102	189	13

Part Number		Part	ESD	Part Description	c				Technology	>	
1N4370			Z		Diode, Zener, Voltage Reference	eference			Not Applicable	cable	İ
	Sour 029	Test Test Source Date 029 N/R	t Test E Iype N/R	Test Test Test Test Source Date Type Resistance 029 N/R N/R 1500 Ohms		Number Date Number Test Pulses Code <u>Devices Resu</u> 1 N/R 1 FAILE	ber fest T ices Result V 1 FAILED	Test Number Date Number Test Test <u>Capacitance Pulses Code Devices Result Voltage Pin Combination</u> 100E-12 F 1 N/R 1 FAILED 107626 N/R	Failure Test General Criteria Remarks Remarks 102 188 13	Test Gen <u>Remarks Rem</u> 188	General <u>Remarks</u> 13
114370		<b>M</b> 01	Z		Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	700		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	9
114385		111	Z	Thyristor,	SCR				Not Applicable	cable	
	020	N/R	X/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	16674 N/R	102	188	13
114450		FSC	M	Diode, Sma	ll Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	cable	
	029	N/R	X/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5889 N/R	102	188	13
18454		X/R	2		ll Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	cable	
	232	N/R	₹   	N/R Ohms	100E-12 F	1 N/R	1 FAILED	2625 N/R	102	184	13
114465		N/R		Diode, Zen	3 Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
18467		N/R	8		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R		V/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114469		X/R	~		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13

Part			ESD								
1N4471		M/R	3		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	1
	Test	t Tes	Test Test Test	Test		Number	umber Test T	Test	Failure Te		General
	030	N/R	N K K	Source Date IYPE RESISTANCE 030 N/R N/R 1500 Ohms	ce Capacitance s 100E-12 F	Put ses	evices Result V	Code Devices Result Voltage Pin Combination N/R 1 PASSED 15300 N/R	Criteria Remarks 103 252		Remarks 13
1N4474		N/R	M		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	s 100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114476		N/R	m	Diode, 26	Diode, Zener, Voltage Regulator	legulator			Not Applicable	cable	
	030	N/R	R/R	1500 Ohms	s 100E-12 f	1 N/R	1 PASSED	15300 N/R	103	252	13
114554		MOT	Z	Diode, Ze	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	007		0188 SS	1500 Ohms	3 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
184561		FSC	m		Diode, Zener, Voltage Regulator	legulator			Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	13624 N/R	102	88	13
114565		₩0T	z		Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	700	0188 SS	SS S	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N4565A		MSC	m	Diode, Ze	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	736		1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	2	252	m
114566		MOT	2	Diode, Ze	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	007	0188 SS	SS (	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10

Part		Part	ESD Class	Part						•		
1457		S			Recti	Diode, Rectifier, Low Power	ower			Not Applicable	cable	1
	Test Sourc 029	t Ice Da	st Tes Ite Type R N/R	Test Test Test Test Source Date Type Resistance 029 N/R N/R 1500 Ohms		Test Capacitance 100E-12 F	Number Pulses 1	뭐요	Test Voltage Pin Combination 7437 N/R	Failure Test General <u>Criteria Remarks Remarks</u> 102 189 13	Test Ge Remarks Re 189	General Remarks 13
1N4570		MOT	z	N Diode,	Zener	Diode, Zener, Voltage Reference	leference			Not Applicable	cable	
	007		0188 SS	1500 Ohms		100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N4573		MOT	z	N Diode,	Zener	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	007		0188 SS	1500 Ohms		100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N4574A		<b>W</b> SC	M		Zener	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	436		1186 SS	1500 Ohms		100E-12 F	18 N/R	5 PASSED	4000 N/R	ĸ	252	M
1N4574A		SIE		3 Diode,	Zener	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	436		1186 SS	1500 Ohms		100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	M
11459		TEX	M		Recti	Diode, Rectifier, Low Power	OWer			Not Applicable	cable	
	020	N/R	R N/R	1500 Ohms		100E-12 F	1 N/R	1 FAILED	15090 N/R	102	189	13
11459		<b>X</b> X	M		Recti	Diode, Rectifier, Low Power	ower			Not Applicable	cable	
	030	N/R	R/R	1500 Ohms		100E-12 F	1 N/R	1 FAILED	12000 N/R	103	252	13
	048	N/R	R SS	100 Ohms		218E-12 F	1 N/R	1 PASSED	3000 N/R	14	252	82

Part Number			ESD Class	Part <u>Descriptio</u>	CO				Technology		ı
1N459A		TRE	z	Diode, Rec	Diode, Rectifier, Low Power	ower			Not Applicable	cable	
	Test	Test	Test Test Test	Test	Test	Number Date Number	Test	Test Waltama Din Combination	failure Test Criteria Demarks	st General	ral
	620	N/R	N/N	029 N/R N/R 1500 Ohms	100E-12 F	1 N/R	N/R 1 FAILED	20969 N/R	102		5 5
114614		N/R	8	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	X/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	15000 N/R	103	252	5
114615		MOT	z	Diode, Zen	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	700	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	196	5
114616		MOT	z	Diode, Zen	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	400	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
114619		MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
114622		MOT	z	Diode, Zen	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	400	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
184624		N/R	٣	Diode, Zen	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	030		N/R N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184624		<b>#</b> 01	z	Diode, Zen	Diode, Zener, Voltage Reference	eference			Not Applicable	cable	
	400	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	196	10

Part		Part ESD	ESD	Part Description	c				-		
184625			2		Diode, Zener, Voltage Regulator	egulator			Not Applicable	gy icable	1
	Test	t Tes	it Tes	Test Test Test	Test	Date	- 1		Failure Test	est Ge	General
	88	3	N/R N/R	1500 Ohms	100E-12 F	/ / / / / / / / / / / / / / / / / / /	Devices Result V	15300 N/R	Criteria Remarks 103 252	emarks Re 252	Remarks 13
1N4626		#/R	M		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114627		N/R	m		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184627		₩OT	z	Diode, Zen€	Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	700		1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	01
114679		*/R	M		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184683		N/N	M		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184686		N/R	ĸ		Diode, Zener, Voltage Regulator	gulator			Not Applicable	cable	
	030	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114689		X /X	m		Diode, Zener, Voltage Regulator	gulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13

Part			SOI.	Part Description	و ا				Technology	37	1
184091		¥ *	<b>~</b> 1	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	Test	Test	Test Test Test	Test	Test	Number Date Number Test			Failure Te	Test Gen	Generat
	030	Source Date 030 N/R	Z K S K	Type Resistance N/R 1500 Ohms	Capacitance 100E-12 F	Pulses Code Devices Result 1 N/R 1 PASSED		Voltage Pin Combination 15300 N/R	<u>Criteria Remarks</u> 103 252	252	Kemarks 13
114693		N/R	m	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114696		N/R	m	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	X/R	X X	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114697		N/R	m	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	*/R	X /X	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114727		FSC	M	Diode, Smal	l Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6399 N/R	102	188	13
114732		MOT	z	Diode, Zene	N Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
184821		FSC	M	Diode, Rect	Diode, Rectifier, High Power	Power			Not Applicable	icable	
	059	N/R	χ Χ	1500 Ohms	100E-12 F	1 N/R	1 FAILED	11155 N/R	102	188	13
1N482A		TRC	z	Diode, Zene	Diode, Zener, Voltage Reference	eference			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	27498 N/R	102	188	13

Part	ESD Part	Todayor
1N4838	TRC N Diode, Zener, Voltage Reference	Not Applicable
	Test Test Test Test Number Date Number Test Test	Failure Test General
	Source Date Type Resistance Capacitance Pulses Gode Devices Result Voltage Pin Combination	Criteria Remarks Remarks
	N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED	102 188 13
1N484A	IRC 3 Diode, Zener, Voltage Reference	Not Applicable
	029 N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED 14589 N/R	102 189 13
JN486	TRC 3 Diode, Zener, Voltage Reference	Not Applicable
	029 N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED 7374 N/R	102 188 13
1N4 96B	N/R 2 Diode, Zener, Voltage Reference	Not Applicable
	232 N/R N/R Ohms 100E-12 F 1 N/R 1 FAILED 3224 N/R	102 184 13
1N4905A	N/R 3 Diode, Zener, Voltage Reference	Not Applicable
	030 N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED 15000 N/R	103 252 13
184937	MOT N Diode, Rectifier, High Power	Not Applicable
	029 N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED 10054 N/R	102 189 13
	400 0188 SS 1500 Ohms 100E-12 F 400 N/R 10 PASSED 43000 ANODE TO CATHODE	E 123 0 10
114938	N/R 3 Diode, Small Signal, General Purpose	Not Applicable
	232 N/R N/R Ohms 100E-12 F 1 N/R 1 FAILED 5827 N/R	102 184 13

Part		Fart ESD	ESD	Part Description	S				Technology	>	
1N4942			Z		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	ı
	Test		t Test	Test Test	Test	Number Date Number	Test	Test	Failure Test		General
	Sour	8	1 Type	Resistance		Pulses Code	Devices Result V	Result Voltage Pin Combination	Criteria Remarks	marks Rem	Remarks
	232	N/R	N/R	N,'R Ohms	100E-12 F	1 N/R	1 FAILED	23868 N/R	102	184	13
			ı		:				;	:	
184942		I NO	M		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	395	0886	0886 SS	1530 Chms	100E-12 F	5 N/R	1 PASSED	5000 N/R	102	166	•
		!			:	,			:	:	
1N4944		χ χ	Z		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	: 100E-12 F	1 N/R	1 FAILED	24771 N/R	102	184	13
1N4946		N/R	z		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	21703 N/R	102	184	13
114947		19	2		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	394		0485 SS	1500 Ohms	100E-12 F	10 N/R	10 FAILED	4000 N/R	95	-	59
114948		N/R	M	Diode, Rectifier,	ectifier, Fast	Fast Recovery			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	; 100E-12 F	1 N/R	1 FAILED	15873 N/R	102	184	13
184954		N/R	٣		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114955		N/R	M		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	030	N/R		N/R 1500 Ohms	, 100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13

Part		Part	ESD	Part	c					ì	
114956			<u> </u>		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	ŀ
	Test Source	t Test '	it Tes e Type	Test Test Type Resistance	Test Capacitance	Number Date Pulses Code	fest Result	Test Voltage Pin Combination	Failure Test Criteria Remarks	Test Ger Remarks Rem	General Remarks
	030	1	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
144957		N/R	M		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184958		N/R	~		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	¥/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1860		X X	M		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184961		₩SC	ĸ		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	436		1186 SS	1500 Оһтѕ	100E-12 F	18 N/R	1 PASSED	4000 N/R	5	252	m
1N4962		N/R	M		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
184964		N/R	m		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	х Х	X X	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N4967		N/R	ĸı		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13

Part		•	ESD	Part Description	u				Technology	2	l
184969		х Х	m	Diode, Zer	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	Test		Test Test Test	Test		Number Date Number	er Test T	Test	Failure Test	st Ger	General
	Source 030	N/R	Date Type N/R N/R	Resistance 1500 Ohms		Capacitance Pulses Code Devices	ces Result V	Result Voltage Pin Combination PASSED 15300 N/R	Criteria Remarks 103 252	marks Red 252	Remarks 13
114971		N/R	m	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	χ «	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
114972		N/8	3	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
146974		N/8	3	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N4976		N/R	<b></b>	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	ט א/א	103	252	13
114976		MSC	3	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	736	1186	SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	<b>S</b>	252	٣
114979		Z,'R	M	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
115139		MOT	٣	Diode, Mic	rowave, Var.	Diode, Microwave, Var. Cap. (Varactor)			Not Applicable	cable	
	705	0887 SS	SS	1500 Ohms	100E-12 F	5 N/R	4 FAILED	6000 N/R	89	252	13

Part		Part ESD	ESO	Part Description	ç				Technology	>	
1N5139A			2	Diode, Mic	Diode, Microwave, Var. Cap. (Varactor)	ap. (Varactor)			Not Applicable	icable	1
	Test Source	. Test ce Date	Test Test Test Date Type Resig	Test Test Test Test Source Date Type Resistance	Test Capacitance	Number Date Number Pulses Code Devices	Test Result	Test Voltage Pin Combination	Failure Test Criteria Remarks		General Remarks
	232	N /R	α 2	N/R Ohms	100E-12 F	N/R	1 FAILED		102		13
1N5139A		MOT	~		Diode, Microwave, Var. Cap. (Varactor)	ap. (Varactor)			Not Applicable	icable	
	026	0178 SS	SS S	100 Ohms	200E-12 F	1 N/R	4 FAILED	513 C(+) A(-)	06	285	13
1N5140		MOT	М	Diode, Mic	Diode, Microwave, Var. Cap. (Varactor)	ap. (Varactor)			Not Applicable	icable	
	405	0787 SS	SS	1500 Ohms	100E-12 F	5 N/R	9 FAILED 4 FAILED	9000 N/R 9000 N/R	88	252 252	£1 £1
1N5140A		N/R	M	Diode, Mic	Diode, Microwave, Var. C	Cap. (Varactor)			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	7010 N/R	102	184	13
1N5144A		N/R	m	Diode, Mic	Diode, Microwave, Var. C	Cap. (Varactor)			Not Applicable	;cable	
	232	χ γ	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	11090 N/R	102	184	13
1N5146		150	m		Diode, Microwave, Var. Cap. (Varactor)	ap. (Varactor)			Not Applicable	icable	
	405	0887 ss	SS ,	1500 Ohms	100E-12 F	5 N/R	10 FAILED	5000 N/R	89	252	13
1N5148		N/R	-	Diode, Mic	Diode, Microwave, Var. Cap. (Varactor)	ap. (Varactor)			Not Applicable	icable	
	405	0887 SS	ss ,	1500 Ohms	100E-12 F	5 8615	4 FAILED	2000 N/R	89	257	13
1N5148A		N/R	z	Diode, Mic	Diode, Microwave, Var. Cap. (Varactor)	ap. (Varactor)			Not Applicable	icable	
	232	d/N	æ ∡	N/P Ohms	100E - 12 F	1 N/R	1 FAILED	16758 N/R	102	184	13

Part	a.									
1N5 187	Σ   2	N/R Class		Description Drode, Rectifier, Fast F	Recovery			Technology Not Applicable	able	
	Test Source 232	Test Test Date Type N/R N/R	Test Test Test Test Source Date Type Resistance 232 N/R N/R N/R Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Resul 1 N/R 1 FALLE	iber Test   	Number Date Number Test Test Pulses Code Devices Result Voltage Pin Combination 1 N/R 1 FALLED 68381 N/R	Failure Test Criteria Remarks 102 184	st General narks Remarks 184 13	rat rks 13
V5188	2	α 2	N Diode, Rec	Diode, Rectifier, Fast Recovery	ecovery			Not Applicable	able	
	232	N/R N/R	N/R Ohms	100E·12 F	1 N/R	1 FAILED	75226 N/R	102	184	55
1N5193	ż	N/N	N Diode, Rec	Diode, Rectifier, Fast Recovery	есочегу			Not Applicable	able	
	232	N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	74897 N/R	102	184	13
1N5221	Ĭ	MOT	N Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	able	
	007	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
1N5230	¥	MOT	N Diode, Zen	Diode, Zener, Voltage Reference	ference			Not Applicable	able	
	007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N5233	¥	MOT	N Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	able	
	029	N/R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	84112 N/R	102	189	13
	007	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
1N5250	MOT	z		Diode, Zener, Voltage Regulator	gulator			Not Applicable	able	
	007	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10

Part Number	(Cont'd)	Part ESD Mfr Class	Part SS Descript	ion				Technology	×	
1N5250				Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	Test		Test Test Test Date Turn Decistance	Test	Number Date Number Dulses Code Devises	Test	Test Voltage Din Combination	Failure Test	ر ح	General
	9	0188 0188 0188	SS 1500 Ohms		N/R	PASSED	43000 ANODE TO CATHODE	123		10
1N5255		MOT	N Diode, Zo	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cabl e	
	007	1287 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
	007	0188 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N5260		Ē 1	N Diode, Zo	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	1287 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
	007	0188 SS	s 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	196	10
1N5264		10M	N Diode, Ze	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007	1287 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
	007	0188 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N5267		MOT	N Diode, Zo	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	1287 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
1N5270		MOT	N Diode, Zo	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	1287 SS	s 1500 Ohms	s 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	122	0	10
1N5285		MOT	3 Diode, C	Diode, Current Regulator	ږ			Not Applicable	cable	
	026	0178 SS	s 100 Ohms	s 200E-12 F	1 N/R	4 FAILED	1950 A(+) C(-)	06	285	13

Part	_			Part							
Number	_		Class	Description	5				Technology	ļ	
1N5287	_	MOT	z	Diode, Curi	Diode, Current Regulator				Not Applicable	ple	
	Test	Test Test Test	Test	Test		Number Date Number Test		Test	Failure Test	General	ral
	Source	Date 1	Type	Resistance	Source Date Type Resistance Capacitance F	Pulses Code De	Code Devices Result	Voltage Pin Combination	Criteria Remarks	rks Remarks	rks
	059	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	104875 N/R	102		13
1N5288	•	MOT	z	Diode, Curi	N Diode, Current Regulator				Not Applicable	ble	
	007	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1M520C		Į.	2	Diode Zeo	Diode Zener Voltane Benilator	o de la con			Not Applicable	<u> </u>	
NOC NO	•	ē		, apo 10	er, vortage Ke	igue a col			NOT APPLICA	ນ	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
			,								
185291	<b>~</b> .	N/N	~	Diode, Curi	Diode, Current Regulator	,			Not Applicable	pl e	
	030	X X	4/R	N/R N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N5291	-	MOT	z	Diode, Curi	Diode, Current Regulator				Not Applicable	ble	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N5292	-	MOT	z	Diode, Curi	Diode, Current Regulator				Not Applicable	ble	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	5
1N5297	2	MOT	z	Diode, Curr	Diode, Current Regulator				Not Applicable	ble	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N5299	•	MOT	z	Diode, Curi	Diode, Current Regulator				Not Applicable	ple	
	007	0188 SS		1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10

Part		Part ESD Mfr Class	Part S Description	ç				Technology	
1N5301			Diode,	Current Regulator				Not Applicable	
	Source 400	約	Test Test Test <u>Date Type Resistance</u> 0188 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Pulses Code <u>Devices</u> 400 N/R	Test Result PASSED	Test Voltage Pin Combination 43000 ANODE TO CATHODE	Failure Test <u>Criteria Remarks</u> 123 0	Test General <u>Remarks Remarks</u> 0 10
1N5306		MOT	N Diode, Cur	Diode, Current Regulator	,			Not Applicable	4.
	700	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123 (	0 10
1N5308		MOT	N Diode, Cur	Diode, Current Regulator	,			Not Applicable	
	007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123 0	10
1N5310		MOT	N Diode, Cur	Diode, Current Regulator	,			Not Applicable	4.
	007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123 (	0 10
115311		MOT	N Diode, Cu	Diode, Current Regulator	·			Not Applicable	41
	007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123 (	0 10
115312		MOT	N Diode, Cu	Diode, Current Regulator	,			Not Applicable	a).
	700	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSEU	43000 ANODE TO CATHODE	123 (	0 10
115313		MOT	N Diode, Cu	Diode, Current Regulator	(			Not Applicable	41
	007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123 (	0 10
1N5330		MOT	N Diode, Rec	Diode, Rectifier, High Power	Ower			Not Applicable	a,
	700	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122 (	0 10

Part Number		Part ESD Mfr Cla	ESD	Part Description	_				Technology	>	
115356			2		_				Not Applicable	cable	1
	Test	t Test	t Test			Number Date Number Test	. Test T		Failure Test		ral
	Sour 029	ce Date	e Type	Source Date Type Resistance 029 N/R N/R 1500 Ohms	Capacitance F 100E-12 F	Pulses Code Devices Result		Voltage Pin Combination 5 156131 N/R	Criteria Remarks 102 189	marks Remarks 189 13	13
1N537		TEX	Z	Diode, Rect	Diode, Rectifier, High Power	Power			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	16914 N/R	102	189	13
1N5378		MOT	Z		Diode, Rectifier, High Power	Power			Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	17904 N/R	102	189	13
1N538B		19	2	Diode, Smal	l Signal, Ger	Diode, Small Signal, General Purpose			Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	78542 N/R	102	188	13
1N5391		TEX	Z	Diode, Rect	Diode, Rectifier, High Power	Power			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	17121 N/R	102	189	5
1N540		TEX	M		Diode, Rectifier, High Power	Power			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	14985 N/R	102	189	13
1N5406		<b>M</b> OT	z		Diode, Rectifier, High Voltage	Voltage			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E-12 F	400 N/R 1	10 PASSED	43000 ANODE TO CATHODE	123	0	0
1N5416		N/R	z		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	cable	
	232	N/R	N N	N/R Ohms	100E-12 F	1 N/R	1 FAILED	64333 N/R	102	184	13

Part			S						3	ì	
NUMBER			Class						lecunorogy	X	
1N5417		N/N	M	Diode, Reci	Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	icable	
	Test		Test	Test Test Test	Test	Number Date Number	Test	Test	Failure Tes		General
	Source	ce Date	Type	Date Type Resistance	Capaci tance	Pulses Code Devi	ses Result	Devices Result Voltage Pin Combination	Criteria Remarks		Remarks
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6000 N/R	103	252	13
	232	R/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	62028 N/R	102	184	13
1N5417		19	-		Diode, Rectifier, fast Recovery	Recovery			Not Applicable	icable	
	394	0485 SS	SS	1500 Ohms	100E-12 F	10 N/R	3 FAILED 1 FAILED	2000 N/R 1100 N/R	95 95	238 241	62 62
1N5417		₩SC	м		Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	icable	
	436	1186 SS	SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	ΙΛ	252	м
1N5417A		INO			Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	icable	
	394	0485 SS	SS	1500 Ohms	100E-12 F	10 N/R	2 PASSED	4000 N/R	66	29	62
1N5418		N/R	2	Diode, Rect	Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	62087 N/R	102	184	51
	920	0178 SS	SS	100 Ohms	200E-12 F	1 N/R	4 FAILED	6000 C(+) A(-)	06	285	13
1N5420		N/R	ĸ	Diode, Rect	Diode, Rectifier, Fast Recovery	Recovery			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED 1 FAILED	15300 N/R 9000 N/R	103	252 252	13
1N54638		N/R	m	Diode, Micr	owave, Var.	Diode, Microwave, Var. Cap. (Varactor)			Not Applicable	icable	
	232	N/R	R/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	5465 N/R	102	184	13

Part Number		Part E	ESD	Part Description	_				yeo lookoot	Ş	
1N5467B			m	Diode, Mi	owave, Var. (	crowave, Var. Cap. (Varactor)			Not Applicable	icable	1
	Source	t Test	Test Ivpe	Test Resistance	Test Capacitance	Number Date Number Pulses Code Devices	Test Result	Combination	Failure Test General Criteria Remarks Remarks	est Ge Temarks Re	General Remarks
	232	α <b>2</b>	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	8126 N/R	102	184	13
1N547		TEX	2	Diode, Rect	Diode, Rectifier, High Power	Ower			Not Applicable	icable	
	050	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	76707 N/R	102	189	13
1N5476B		M/R	z	Diode, Micr	owave, Var. C	Diode, Micro⊌ave, Var. Cap. (Varactor)			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	18736 N/R	102	184	13
1N55238		N/R	M	Diode, Zene	Diode, Zener, Voltage Regulator	gulator			Not Applicable	icable	
	030	N/R	<b>₹</b> 	1500 Ohms	100E-12 F	1 N/R	1 FAILED	15000 N/R	103	252	13
1N5525		MOT	z	Diode, Zene	Diode, Zener, Voltage Regulator	igulator			Not Applicable	icable	
	400	0188 SS	SS	1500 Ohms '	100E-12 F	400 N/R 1	10 PASSED	43000 N/R	123	0	5
1N55258		MSC	M		Diode, Zener, Voltage Regulator	gulator			Not Applicable	icable	
	436	1186 SS	SS	1500 Ohms	100E-12 F	18 N/R	3 PASSED	4000 N/R	5	252	M
11553		N/R	2	Diode, Rect	Diode, Rectifier, Low Power	Wer			Not Applicable	icable	
	232	X/R	X X	N/R Ohms	100E-12 F	1 N/R	1 FAILED	68061 N/R	102	184	13
1N5530		MOT	Z	Diode, Zener	Diode, Zener, Voltage Regulator	gulator			Not Applicable	icable	
	700	0188 SS	SS	1500 Ohms 1	100E-12 F	400 N/R 1	10 PASSED	43000 ANODE TO CATHODE	123	0	1

Part		Part ESD Mfr Clas	ESD	Part Description	S				Technology	}	
1N5538			2		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	Test Source 400	t Test rce Date 0188	t Test e Iype 8 SS	Source Date Iype Resistance 400 0188 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Date Code N/R	mber fest T vices Result V 20 PASSED	Number Test Test  Devices Result Voltage Pin Combination 20 PASSED 43000 ANODE TO CATHODE	Failure Test General Criteria Remarks Remarks 123 0 10	est G emarks R 0	General Remarks 10
1N5546		<b>F</b> 01	z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	700		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N5550		N/R	Z		Diode, Rectifier, High Power	Power			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	47043 N/R	102	78	5
1N5550		MSC	₩		Diode, Rectifier, High Power	Power			Not Applicable	icable	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	10 PASSED 5 PASSED	4000 N/R 4000 N/R	÷2 12	252 252	мм
1N5550		IN N	ω		Diode, Rectifier, High Po⊌er	Power			Not Applicable	icable	
	436	1186	ss 9	1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	'n	252	M
115552		SEM	Z		Diode, Rectifier, High Power	Power			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	34778 N/R	102	188	13
1N5552		N/R	3		Diode, Rectifier, High Power	Power			Not Applicable	icable	
	030	A/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5000 N/R	103	252	13
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	53765 N/R	102	184	13

Part			ESD	Part	9				, och och	2	
1N5554		N N	2		Diode, Rectifier, High Power	Power			Not Applicable	cable	1
	Test	t Test	it Tes	Test Test		Date	Test	Test	Failure Test		General
	232 232	N/R I	2	N/R Ohms	100E-12 F	1 N/R	1 FAILED	54348 N/R	102 184		13
1N5555		N/R	m		Diode, Suppressor, Transient	sient			Not Applicable	cable	
	030		X X	N/R N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N5556		ge≽	Z		Diode, Suppressor, Transient	sient			Not Applicable	cable	
	029	N/R	N/R	1500 CF ns	100E-12 F	1 N/R	1 FAILED	188033 N/R	102	189	13
1N5558		¥/R	М		Diode, Suppressor, Transient	sient			Not Applicable	cable	
	030	N/R	N/R	1500 O ms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N5614		SEM	3		Diode, lectifier, High Power	Power			Not Applicable	cable	
	050	N/R		N/R 1500 C:ms	100E-12 F	1 N/R	1 FAILED	11990 N/R	102	188	13
1N5614		N/R	М		Diode, Rectifier, High Power	Power			Not Applicable	cable	
	030	N/R	X /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	8000 N/R	103	252	13
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	23868 N/R	102	184	13
1N5615		19	2	Diode, Rectifier,	tifier, Fast	Fast Recovery			Not Applicable	icable	
	394	048	0485 SS	1500 Ohms	100E-12 F	10 N/R	3 FAILED	4000 N/R	95	57	62

Part	(Conf.1d)		ESD	Part	ş					Technology	}	
1N5615	i	¥	3	Diode,	Rectifier, Fast Recovery	Recovery				Not Applicable	icable	
	Test Source 030	Test Ce Date N/R	t Test E Type N/R	Test Test Test  Date Type Resistance N/R N/R 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Result Voltage Pin Combination 1 N/R 1 FAILED 9000 N/R	mber Test vices Result 1 FAILED	Test Voltage Pin 9000 N/R	Combination	Failure Test  Criteria Remarks 103 252		General Remarks 13
	232	Z/R	x/x	N/R Ohms	100E-12 F	1 N/R	1 FAILED	23868 N/R		102	184	13
1N5615		SEN	7		Diode, Rectifíer, Fast Recovery	Recovery				Not Applicable	icable	
	394	0485	SS	1500 Ohms	100E-12 F	10 N/R	11 FAILED	4000 N/R		95	239	59
1N5616		SEM	М	Diode, Rec	Diode, Rectifier, High Power	Power				Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	1500 Ohms 100E-12 F	1 N/R	1 FAILED	11403 N/R		102	188	13
115616		N/R	Z	Diode, Rec	Diode, Rectifier, High Power	Power				Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	24771 N/R		102	184	13
1N5617		N/R	2	Diode, Rec	Diode, Rectifier, Fast Recovery	Recovery				Not Applicable	icable	
	232	N/R	N/N	N/R Ohms	100E-12 F	1 N/R	1 FAILED	24771 N/R		102	184	13
1N5617		SEN	2		Diode, Rectifier, Fast Recovery	Recovery				Not Applicable	icable	
	394	0485	0485 SS	1500 Ohms	1500 Ohms 100E-12 F	5 N/R	3 PASSED 11 PASSED	4000 N/R 4000 N/R		95	26 26	29
1N5618		N/R	z	Diode, Rec	Diode, Rectifier, High Power	Power				Not Applicable	icable	
	232	<b>N</b> /R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	21703 N/R		102	184 .	13

Part Number		Part ESD Mfr Cla	ESD	Part Description	ion					Technology	>	
1115619			Z	Diode, R	Diode, Rectifier, Fast Recovery	Fast Re	covery			Not Applicable	cable	l
	Test	Test	Test	Test			Number Date Number	er Test T	Test	Failure Test		General
	Sour 232	Source Date 232 N/R	IVPe N/R	Resistance N/R Ohms	ce Capacitance s 100E-12 F	tance Pu ? F	Pulses Code Devi	ces Result V	Code Devices Result Voltage Pin Combination N/R 1 FAILED 21703 N/R	Criteria Remarks 102 184		Remarks 13
											:	
1N5622		χ χ	m	Diode, Re	Diode, Rectifier, High Power	High Po	Wer			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	s 100E-12 F	L.	1 N/R	1 FAILED	15868 N/R	102	184	13
1N5623		χ %	Z	Diode, Re	Diode, Rectifier, Fast Recovery	Fast Re	соvегу			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	s 100E-12	ır.	1 N/R	1 FAILED	17775 N/R	102	184	13
1N5635A		GEN	8	Diode, Su	Diode, Suppressor, Transient	Transi	ent			Not Applicable	cable	
	436	1186 SS	SS	1500 Ohms	s 100E-12	ı.	18 N/R	1 PASSED	4000 N/R	2	252	8
1N5647A		GEN	М	Diode, Su	Diode, Suppressor, Transient	Transi	ent			Not Applicable	cable	
	436	1186 SS	SS .	1500 Ohms	s 100E-12	F.	18 N/R	5 PASSED	4000 N/R	50	252	2
1N5656A		GEN	m	Diode, St	Diode, Suppressor, Transient	Transi	ent			Not Applicable	cable	
	436	1186 SS	SS	1500 Ohms	s 100E-12	T.	18 N/R	5 PASSED	4000 N/R	5	252	٣
1N5711		N/R	2	Diode, Sma	nall Signe	ıl, Gene	ll Signal, General Purpose			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	s 100E-12 F	ъ.	1 N/R	1 FAILED	2500 N/R	103	252	13
	232	N/R	N/R	N/R Ohms	s 100E-12 F	u_	1 N/R	1 FAILED	2452 N/R	102	184	13

Test Test Test Source Date Type 028 N/R SS	)   ¥	2	Diode, Small	1	Signal, General Purpose			Not Applicable	icable	
<u>ရ</u>	Test	Test Test Test	Test		Date	Test		Failure To		General
	N/R	S S	1500 Ohms	1500 Ohms 117E-12 F	30 N/R	5 FAILED	300 N/R	97 252		13
Ŧ	HEC	-	Diode, Small		Signal, General Purpose			Not Applicable	cable	
277	N/R	ß	1500 Ohms	100E-12 F	200 N/R	1 PASSED	275 C(+) A(-)	76	252	13
	N/R	S.	1500 Ohms	100E-12 F	65 N/R	1 PASSED	300 C(+) A(-)	76	252	13
	N/R	S	1500 Ohms	100E-12 F	500 N/R	1 PASSED 8 PASSED	300 C(+) A(-) 300 C(+) A(-)	<b>7</b> 6	252	55
278	X/R	NS.	1500 Ohms	100E-12 F	1 N/R	1 FAILED	300 C(+) A(-)	76	252	13
	N/R	Š	1500 Ohms	100E-12 F	500 N/R	1 FAILED	300 C(+) A(-)	76	252	13
279	N/R	85	1500 Ohms	100E-12 F	10 N/R	1 FAILED	325 C(+) A(-)	76	252	13
279	R/R	S	1500 Ohms	100E-12 F	50 N/R	1 FAILED	325 C(+) A(-)	76	252	13
	N/R	3	1500 Ohms	100E-12 F	37 N/R	1 FAILED	350 C(+) A(-)	76	252	13
	X /R	S	1500 Ohms	100E-12 F	75 N/R	1 FAILED	350 C(+) A(-)	76	252	13
	N/R	8	1500 Ohms	100E-12 F	2 N/R	1 FAILED	375 C(+) A(-)	76	252	13
282	X/R	8	1500 Ohms	100E-12 F	7 N/R	1 FAILED	400 C(+) A(-)	76	252	13
282	N/R	8	1500 Ohms	100E-12 F	1 N/R	2 FAILED	400 C(+) A(-)	76	252	13
282	X/R	S	1500 Ohms	100E-12 F	8 N/R	1 FAILED	400 C(+) A(-)	76	252	13
282	χ Ά	S	1500 Ohms	100E-12 F	9 N/R	1 FAILED	400 C(+) A(-)	76	252	13

				s	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
			General	Remarks	-	-	-	-	-		-	-	_	-		-	~ <b>~</b>	-	-	-	-
	_	cable	Test	Remarks		252	252	252	252	252	252	252	252	252	252	252	252 252	252	252	252	252
-	Technology	Not Applicable				76	76	76	76	76	76	76	76	76	76	76	%	76	76	76	76
	Tech	Not	Failure	Criteria																	
				nation																	
				Pin Combination	(-) <b>V</b>	A(-)	A(-)	A(-)	A(-)	A(-)											
						400 C(+) A(-)	400 C(+) A(-)	400 C(+) A(-)	400 C(+) A(-)	450 C(+) A(-)	450 C(+) A(-)	450 C(+) A(-)	450 C(+) A(-)	500 C(+) A(-)	500 C(+) A(-)	500 C(+) A(-)	500 C(+) A(-) 500 C(+) A(-)	500 C(+) A(-)	500 C(+) A(-)	550 C(+) A(-)	550 C(+) A(-)
			Test	Vol tage		)7	0,7	07	07	45	45	45	57	20	50	20	25 25	20	20	55	55
			Test	Result	FAILED	FAILED	FAILED	FAILED	FAILED	1 FAILED	FAILED	1 FAILED	FAILED	FAILED	1 FAILED	FAILED	1 FAILED 1 FAILED	FAILED	1 FAILED	FAILED	1 FAILED
				Devices		7	-	-	~	-	2	<del>-</del>	-	-	-	4		×	-	-	-
		rpose	ate Nu	Code De	N/R	Ж.	×.	æ	æ	N/R	Α.	N/R	Α,	N/R	N/R	×.	M/R	~	×	α,	æ
		Diode, Small Signal, General Purpose	Number Date Number	ulses C	20 N	25 N/R	60 N/R	125 N/R	200 N/R	ν	10 N/R	<>	20 N/R	-	7	1 N/R	8	5 N/R	9 N/R	2 N/R	3 N/R
		ıl, Ger	Z	ance P	u.	u.	<b>L</b>	ı.	<b>L</b>	u.	<b>u</b> .	u.	u.	u.	u.	L.	u.	u.	u.	u.	u
		l Signa	Test	Capaci tance	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12	100E-12
:	Description	, Smal																			
Part	Descr	Diode	Test Test	Resistance	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms
S .	Class	-	Test	Type	3	8	8	S	N S	8	N.	N S	Ŗ	8	R	35	35	8	S.	3	ß
		HEL	Test	e Date	N/R	N/8	X/R	N/R	R/R	N/R	X X	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
	(Cont.d)	_	Test	Source	282	282	282	282	282	283	283	283	283	584	584	787	787	584	584	285	285

	<u>و</u>	Seneral	cs Remarks	252 13	252 13	252 13	252 13	252 13	252 13	252 13	252 13	252 13	252 13 252 13	252 13	252 13	252 13	252 13	252 13	252 13	252 13
ABO	licabl	Test	Remarks		25	3.	55	33	ξ;	23	23	23	2, 2,	₹;	ξ;	2	23	7.	73	7
Technology	Not Applicable	Failure	Criteria	76	76	34	7.5	76	76	76	76	76	7.6 7.6	76	7.6	7.6	76	7.6	76	70
			Pin Combination	A(-)	A(-)	A(-)	A(-)	A(-)	A(-)	A(-)	A(-)	A(-)	A(-) A(-)	A(-)	A(-)	A(-)	A(-)	A(-)	A(-)	
		Test	Voltage		560 C(+) A(-)	560 C(+) A(-)	600 C(+) A(-)	630 C(+) A(-) 630 C(+) A(-)	650 C(+) A(-)	675 C(+) A(-)	( ) W ( ) ) 3L )									
		mber Test	vices Result	1 FAILED	5 PASSED	5 FAILED	1 FAILED	2 FAILED	6 FAILED	2 FAILED	1 FAILED	1 FAILED	7 FAILED 3 PASSED	1 FAILED	1 FAILED	1 FAILED	2 FAILED	1 FAILED	1 FAILED	
	ll Signal, General Purpose	Number Date Number	Pulses Code	8 N/R	1 N/R		1 N/R	2 N/R	1 N/R	3 N/R	5 N/R	8 N/R	1 N/R	1 N/R	2 N/R	4 N/R	1 N/R	4 N/R	1 N/R	
_	ll Signal, G	Test	Capac i tance		100E-12 F		100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F							
Part Description	Diode, Sma	Test	Resistance		1500 Ohms		1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	15.00						
ESD Class	-	Test Test	Type	3	Š		S	ß	<b>S</b>	ß	<b>S</b>	NS.	N <sub>O</sub>	NS.	S	Š	S.	S.	ß	ā
Part ESD Mfr Clas		Test	Date	, X	N/R		N/R	N/R	N/R	N/R	N/R	N/R	N/N	N/R	X/R	N/R	N/R	<b>N</b> /8	N/R	2
Cont'd)	ı	Test	Source	285 N/R	286		287	287	287	287	287	287	589	290	290	290	290	290	291	00

	c)		Pemar		2 13	2 13	13	13	2 13	13	5 13	13	41	. 13		59	4.	3 29		••	13
λbo	Licable	iest iest	Remarks	252	252	252	252	252	252	252	285	252	licable	184	Licable	59	licable	258		ורשמוה	252
Technology	Not Applicable	Faiture	Criteria Remarks	76	76	96	76	96	76	76	36	89	Not Applicable	102	Not Applicable	56	Not Applicable	56	40	Not Applicable	19
					700 C(+) A(-)	100 C(+) A(-)	1500 N/R		1293 N/R		4000 N/R		4000 N/R			2750 A-C (+ -)					
		Test	Result	S PAILED	Z FAILED	1 FAILED	4 FAILED	1 FAILED	1 FAILED	1 FAILED	4 FAILED	4 FAILED		1 FAILED		3 FAILED		11 FAILED			5 PASSED
	es.	Number	Device	·			•	·		•	7	7	e e	•		M)		11			20
	Signal, General Purpose		Pulses Code	¥ ~			2 N/R	3 N/R		5 N/R	1 N/P	S N/R	Diode, Small Signal, General Purpose	1 N/R	overy	5 N/R	overy	5 N/R	2		1 N/R
	, Gener			_			<b>u</b> L	L.		n.	u.	u <u>.</u>	Genera	u.	ist Reco		st Reco		st bec	י איני	
	Signal	Test	Capacitance	100E - 12			100E-12	100E - 12		100E-12	200E - 12	100E-12	Signal	100E-12 F	Diode, Rectifier, Fast Recovery	100E-12 F	Diode, Rectifier, Fast Recovery	100E-12 F	Dinde Bertifier Fact Bernvery		100E-12 F
Part Description	Diode, Small		ωı								Ohms 2		, Small	Ohms 1	, Recti	Ohms 1	, Recti		Poort		
Part Descr	Diode	Test Test	Kes 1 s	SWUD OOCI			1500 Ohms	1500 Chms		1500 Ohms	100	1500 Ohms	Diode	N/R	Diode	1500 Ohms	Diode	1500 Ohms			1500 Ohms
ESD	-	t Test	e Type	Z O			S.	S		S.	1 88	0787 SS		χ Χ	2	SS 5870	2	.5 <b>SS</b>	^	ı	0986 ss
Part	HEW	Test	Source Date	¥ <b>Z</b>			N/R	N/R		N/R	0281	078	N/R	<b>x</b>	: NO	0485	I NO	- 19 	X	•	9860
1		Test	Source	747			262	292		262	950	705		232	2	394	_	,	•	-	392
(Cont'd)																					
Part Number	1N5711												1N5712		1N5802		1N5804		1858C6	)	

Part	~	Part ESD Mfr Class	Part Description	tion					Technology	>	
1N5807				Diode, Rectifier,	Fast Recovery	ecovery			Not Applicable	cable	1
	Source 394	Test Date 0485	Test Test  Type Resistance SS 1500 Ohms	Test snce Capacitance oms 100E-12 F		Number Date Number Test Pulses Code Devices Resu 5 N/R 11 FALUS	۵ ائ	Test Voltage Pin Combination 4000 N/R	Failure Test Criteria Remarks 95 258		General Renarks 29
\$586 <b>%</b> [	_	5 INI 5			Fast Recovery	scovery			Not Applicable	cable	
	392	1136 SS	1500 Ohms	100E-12	2 F	1 N/R	5 PASSED	2750 A-C (+ -)	19	252	13
145811	_	BSC 3		Diode, Rectifier, Fast Recovery	Fast Re	ecovery			Not Applicable	cable	
	436	0488 SS	1500 Ohms	ıms 100E-12	2 F	18 N/R	5 PASSED	4000 N/R	īV	252	х
	436	1186 SS	1500 Ohms	ıms 100E-12	2 F	18 N/R	1 PASSED	4000 N/R	2	252	3
185814		UNI 3		Diode, Rectifier,	Fast Recovery	scovery			Not Applicable	cable	
	436	,186 SS	1500 Ohms	100E-12	2 F	18 N/R	5 PASSED	4000 N/R	is.	252	8
1N5814		SCN 3		Diode, Rectifier, Fast Recovery	Fast Re	ecovery			Not Applicable	cable	
	436	1186 SS	1500 Ohms	nms 100E-12	2 F	18 N/R	10 PASSED	4000 N/R	ī	252	8
18811	•	SSD 3		Diode, Rectifier, Fast Recovery	Fast Re	covery			Not Applicable	cable	
	736	0788 SS	1500 Ohms	ıms 100E-12	2 F	18 N/R	5 PASSED	4000 N/R	S	252	3
	436	1186 SS	1500 Ohms	nms 100E-12	2 F	18 N/R	5 PASSED	4000 N/R	\$	252	٣
145818	_	MOT 2		Diode, Rectifier, Power Schottky	Power :	Schottky			Not Applicable	cable	
	067	1287 SS	1500 Ohms	nms 100E-12	2 F	30 N/P	10 FAILED	3000 ANODE TO CATHODE	122	0	10

Part	}	Part ESD Mfr Class		non				Technology		
9185N1		SCN 1	Diode, Re	Diode, Rectifier, Power Schottky	Schottky			Not Applicable	le	
	Sourc	Test Test Test Source Date Type	t Test <u>Resistance</u>	Test <u>Ca</u> pacitance	Number Date Number Pulses Code Devices		Test Test Result Voltage Pin Combination	Failure Test		a Je
	707	1181 GN	1500 Ohms	100E-12 F	Z/Z	1 PASSED	1000 N/R		N CHIE	S 5
1N5822		SCN 1		Diode, Rectifier, Power Schottky	Schottky			Not Applicable	(e	
	707	1181 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	1000 N/R	7 57	. 552	13
1N6096		TRW 1		Diode, Rectifier, Power Schottky	Schottky			Not Applicable	e }	
	707	1181 GN	1500 Ohms	. 100E-12 F	10 N/R	1 PASSED	1000 N/R	45 24	252	13
106101		FSC 2		Diode, Special Function, Diode Array	, Diode Array			Not Applicable	e e	
	436	1186 SS	1500 Ohms	100E-12 F	17 N/R	1 FAILED	3500 ANODE TO CATHODE	5 25	252	ъ
1N6103A		MSC 3	Diode, Sup	Diode, Suppressor, Transient	sient			Not Applicable	و	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	5 25	252	M
116173		MSC 3		Diode, Suppressor, Iransient	ient			Not Applicable	ψ	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	5 25	252	23
1N6305		UN1 3	Diode, Rec	Diode, Rectifier, Fast Recovery	ecovery			Not Applicable	<b>Q</b>	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5 252		۳
116324		MSC 3	Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	ø	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5 252		ĸ

Part	(6.400)	Part ESD	ESD	Part					Technology	2	
	2		3		Diode, Zener, Voltage Regulator	gulator			Not Applicable	icable	
	Test		Test Test Test	: Test	Test	Number Date Number	Test	Test	Failure	Test G	General
	Sour	ce Date	e Ive	Source Date Type Resistance	Capacitance	Code	Result	Voltage Pin Combination			Remarks
	927	1186	SS 9	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	2	252	m
1N6391		IRC	٣		Diode, Microwave, Schotiky Barrier	ky Barrier			Not Applicable	icable	
	705	.880	0887 SS	1500 Ohms	100E-12 F	5 N/R	3 FAILED	10000 N/R	89	252	13
1NF392		IRC	~	Diode, Mici	Diode, Microwave, Schottky Barrier	ky Barrier			Not Applicable	icable	
	705	.880	0887 ss	1500 Ohms	100E-12 F	5 N/R	3 FAILED	10000 N/R	89	252	13
1N6392		INO	~		Diode, Microwave, Schottky Barrier	ky Barrier			Not Applicable	icable	
	736	118	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED 5 PASSED	4000 N/R 4000 N/R	νv	252	мм
1N64		АМР	~	Diode, Smal	Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	4829 N/R	102	189	13
1N643A		TRU	2	Diode, Smal	Diode, Small Signal, General Purpose	eral Purpose			Not Applicable	icable	
	620	N/R	N N R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3823 N/R	102	189	13
1N645		111	z	Diode, Reci	Diode, Rectifier, Low Power	wer			Not Applicable	licable	
	050	x /x	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	16543 N/R	102	188	13
11645		1EX	М		Diode, Rectifier, Low Power	ite r			Not Applicable	licable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	13591 N/R	102	189	13

Part Number (Cont'd) 18645	t 'd)	Mfr (N/R	ESD Class 2		Description Diode, Rectifier, Low Power	омег			Technology Not Applicable	cable	}
	Source	8	t Test	Test Resistance	91	Number Date Number Test Pulses Code Devices Resu	Test Result	Test Voltage Pin Combination	Failure Test Criteria Remarks		General
	030	<b>≥</b>	α Α	1500 Ohms	100E-12 F	N/R	1 FAILED	3800 N/R	103	252	<del>5</del>
1N645-1		N/ N/	2		Diode, Rectifier, Low Power	ower			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3800 N/R	103	252	13
1N646		TEX	Z	Diode, Rect	Diode, Rectifier, Low Power	ower			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	32048 N/R	102	189	13
1N647		TEX	z	Diode, Rect	Dìode, Rectifier, Low Power	ower			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	41545 N/R	102	189	5
11647		Z/R	z	Diode, Rect	Diode, Rectifier, Low Power	OWer			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	21384 N/R	102	184	13
1N647-1		TRE	z	Diode, Rect	Diode, Rectifier, Low Power	OWer			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	41067 N/R	102	189	13
1n647-1		¥.	M	Diode, Rect	Diode, Rectifier, Low Power	ower			Not Applicable	cable	
	736		1186 SS	1500 Ohms	100E-12 F	18 N/R	31 PASSED	4000 N/R	ľ	252	m
11647-1		N/R	2		Diode, Rectifier, Low Power	ower			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3800 N/R	103	252	13

Part		Part B	ESD Class	Part Description	C					λb	
11649			€		Diode, Rectifier, Low Power	эмег			Not Applicable	icable	ļ
	Test Source 232	t Test <u>rce Date</u> N/R	t Test E Type N/R	Test Test Test Test Source Date Type Resistance 232 N/R N/R N/R Ohms		Number Date Number Test Pulses Code Devices Resul	S Result V	Test Number Date Number Test Test <u>Capacitance Pulses Code Devices Result Voltage Pin Combination</u> 100E-12 F 1 N/R 1 FAILED 7187 N/R	Failure Test General <u>Criteria Remarks Remarks</u> 102 184 13	est Ger emarks Red 184	General Remarks 13
11658		FSC	Z		Dinde, Small Signal, General Purpose	neral Purpose			Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	22818 N/R	102	189	13
1N6601		FSC	m		Diode, Small Signal, General Purpose	neral Purpose			Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	7597 N/R	102	188	13
1861		TEX	m		Diode, Small Signal, General Purpose	neral Purpose			Not Applicable	icable	
	029	N/R	X/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	12421 N/R	102	189	13
116621		FSC	м		Diode, Small Signal, General Purpose	nera! Purpose			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	10893 N/R	102	188	13
1N702A		TEX	z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	29131 N/R	102	189	13
1N711A		CEN	z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	42034 N/R	102	189	13
1N746		VAR	2		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	705		88	1500 Ohms	100E-12 F	5 8523	3 FAILED	8000 N/R	89	252	13

Part Number		Part ESD Mfr Clas	ESD	Part Description				Technology	à	
1N746A			Z		Regulator			Not Applicable	icable	1
	Test	t Tes	t Test	Test Test Test Test Date Type Resistance	Number Date Number Pulses Code Devices	Test Result	Test Voltage Pin Combination	Failure Test Criteria Remarks		General Remarks
	050	N/R	N/R	1500 ohms	-	FAILED		102		13
1N747A-1		MSC	M	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	436		1186 SS	1500 Ohms 100E-12 F	18 N/R	1 PASSED	4000 N/R	<b>1</b> 0	252	8
11749		VAR	m	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	705		0825 SS	1500 Ohms 100E-12 F	5 N/R	3 FAILED	8000 N/R	89	252	13
1N750		MOT	2	Diode, Zener, Voltage Reference	Reference			Not Applicable	icable	
	400		0188 SS	1500 Ohms 100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N750A		TEX	z	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms 100E-12 F	1 N/R	1 FAILED	50167 N/R	102	188	13
1N750A		N/R	m	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms 100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N750A-1		MOT	M	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	394		0485 SS	1500 Ohms 100E-12 F	10 N/R	11 PASSED	4000 N/R	8	29	62
1N751A		TEX	Z	Diode, Zener, Voltage Regulator	legul ator			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms 100E-12 F	1 N/R	1 FAILED	318002 N/R	102	189	13

Part	(Cont'd)	Part ESD Mfr Clas	S	Part Description	ç				Tochool	2	
1N751A				Diode, Zer	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	Test Source 029	Test Test Test  Ce Date Type Resi  N/R N/R 1500	Test Type N/R	Test Test Test  Date Type Resistance N/R N/R 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Result 1 N/R 1 FAILED		Test Voltage Pin Combination 73190 N/R	Failure Test Criteria Remarks 102 189	Test Ger Remarks Ren 189	General Remarks 13
1N751A		MSC	m	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	436	1186 SS		1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	<b>.</b> ∽	252	m
1N751A		N/R	٣	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N751A-1	_	MSC	ω	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	927	1186 SS		1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	50	252	M
1N752A		TRC	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	020	N/R N,	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	110477 N/R	102	188	13
1N752A		N/R	M	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	030	R/R N,	X X	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N753		MOT	2	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	700	1287 SS		1500 Ohms	100E-12 F	400 N/R	10 FA LED	40000 ANODE TO CATHODE	122	0	10
1N753A		TRC	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	020	N/R N	/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	111218 N/R	102	188	13

Part Number (Con 1N753A	(Cont'd)	Part ESD Mfr Cla MSC	ESD Class	Part Description Diode, Zener, Voltage Regulator	, Voltage R	egulator			Technology Not Applicable	gy icable	
	Test Source 436	: Test Tes ce <u>Date Iyi</u> 1186 SS	rest <u>Type</u> SS	Test Test Test Test Source Date Type Resistance C436 1186 SS 1500 Ohms 1	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Resu 18 N/R 1 PASSE	비유	Voltage Pin Combination 4000 N/R	Failure Test Criteria Remarks 5	est Gemarks R	General Remarks 3
1N753A		N/R	m	Diode, Zener, Voltage Regulator	, Voltage R	egulator			Not Applicable	icable	
	030	N/N	N/R	1500 Ohms 1	100E-12 F	1 N/R	1 FAILED	15000 N/R	103	252	13
1N753A-1		N/R	~	Diode, Zener, Voltage Regulator	, Voltage R	egulator			Not Applicable	icable	
	030	N/R	N/8	1500 Ohms 1	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N753A-1		<b>₩</b>	M	Diode, Zener, Voltage Regulator	, Voltage Re	egulator			Not Applicable	icable	
	436	1186 SS		1500 Ohms 1	100E-12 F	18 N/R	5 PASSED	4000 N/R	ī	252	m
18754		MOT	z	Diode, Zener, Voltage Regulator	, Voltage Ro	egulator			Not Applicable	icable	
	700	0188	SS	1500 Ohms 1	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N754A		NUC	z	Diode, Zener, Voltage Regulator	, Voltage Re	egulator			Not Applicable	icable	
	059	N/R	N/R	1500 Ohms 1	100E-12 F	1 N/R	1 FAILED	31542 N/R	102	188	13
1N.54A		MOT	٣	Diode, Zener, Voltage Regulator	, Voltage Re	egulator			Not Applicable	icable	
	394	0485 SS		1500 Ohms 1	100E-12 F	10 N/R	11 PASSED	4000 N/R	95	242	8
1N754A-1		N/R	м	Diode, Zener, Voltage Regulator	, Voltage Re	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms 1	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13

Part Number 1N755		Part B	ESD Class		Part <u>Description</u> Diode, Zener, Voltage Regulator	egulator			Technology Not Applicable	JY icable	1
	Test		t Test	Test Test Test	Test	Number Date Number Test		Test	Failure Test	est General	ral
	Source 400	9  	Date Type 0188 SS	Resistance 1500 Ohms		Code N/R	비유	age Pin Combination 300 ANODE TO CATHODE	Criteria Remarks 123 0		10 10
1N755A		TRC	z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	020	N/R	₹/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1 FAILED 131406 N/R	102	188	5
1N755A-1		N/N	~		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N756		TRW	Z	Diode, Zene	Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	154666 N/R	102	188	5
1N756		<b>¥</b>	z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	007		1287 ss	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
1N756A		N/R	3		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	<b>X</b> /R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N756A-1		N/R	8		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N757		MOT	Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	005		1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	9

Part			ESD	Part	c				Tochool	>	
1N757A		185 54	Z Z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	1
	Test Source 029	4.1	Test Test Test Date Type Resis N/R N/R 1500	Test Test  Type Resistance N/R 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Result 1 N/R 1 FAILE	비유	Test Voltage Pin Combination 77547 N/R	Failure Test Criteria Remarks 102 188	st General <u>marks</u> <u>Remarks</u> 188 13	ral rks 13
1N757A	030	N/R N/R		3 Diode, Zen N/R 150C Ohms	Diode, Zener, Voltage Regulator 150C Ohms 100E-12 F 1 N	egulator 1 N/R	1 PASSED	15300 N/R	Not Applicable	cable 252	13
1N757A-1	030	N/R N/R	N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/	Dioae, Zen 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 PASSED	15300 N/R	Not Applicable	cable 252	13
1N758	007	MOT 1287 SS	× SS	Diode, Zen 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 400 N	egulator 400 N/R	10 FAILED	40000 ANODE TO CATHODE	Not Applicable	cable 0	10
1N758A	029	TRC N/R	x x	Diode, Zen 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 FAILED	76779 N/R	Not Applicable	cable 188	13
1N758A	029	N/R N/R	N/R 3	Diode, Zen 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 1 N	egulator 1 N/R	1 PASSED	15300 N/R	Not Applicable	cable 252	13
1N758A-1	030	N/R N/R	3 X	Diode, Zen 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F	egulator 1 N/R	1 PASSED	15300 N/R	Not Applicable	cable 252	13
1N758A-1	394	MOT 3	SS 3	Diode, Zen 1500 Ohms	Diode, Zener, Voltage Regulator 1500 Ohms 100E-12 F 10 N	egulator 10 N/R	11 PASSED	4000 N/R	Not Applicable 95 252	cable 252	\$

Part Number		Part ESD	ESD	Part Description	č				Technology	>	
11759			Z	Diode,	Zener, Voltage Reyulator	eyulator			Not Applicable	icable	
	Test Source 400	8	Test	Test Test Test  Date Type Resistance 0188 SS 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Pulses Code Devices 400 N/R 10	ber Test Trices Result V	Number Test  Devices Result Voltage Pin Combination  10 PASSED 43000 ANODE TO CATHODE	Failure Test General  Criteria Remarks Remarks 123 0 10	est Ge emarks Re 0	General Remarks 10
1N759A		N/R	м	Diode, 2	e e	egulator			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N759A-1		N/R	~	Diode, 2	ener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R	N N	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1N759A-1		MOT	M	Diode, Z	ener, Voltage Regulator	egulator			Not Applicable	icable	
	394		0485 SS	1500 Ohms 100E-12	100E-12 F	10 N/R	11 PASSED	4000 N/R	95	252	53
1N763-2		010	Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	050	N/R	X/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	51343 N/R	102	189	13
1N781		MAS	-	Diode, Microwave	rowave				Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1033 N/R	102	189	13
1N78B		ALP	-	Diode, Microwave	rowave				Not Applicable	icable	
	020	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	828 N/R	102	189	13
1N78CR		ALP	<b></b>	Diode, Microwave	:rowave				Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1334 N/R	102	189	13

Part		Part E	ESD Class	Part Description	-				Technology	À	
1N780			-		омаvе				Not Applicable	icable	
	Test	Test Test Test			Test	Number Date Number Test		Test	failure Test	est Ger	General
	Sou	ဗျ		Resistance	Capac i tance	Pulses Code Devices Result	es Result V	Voltage Pin Combination	Criteria Remarks Remarks	emarks Ren	narks
	029	α 2	<u>x</u>	1500 Ohms	100E-12 F	ν χ	1 FAILED	1266 N/R	701	881	5
11816		TRC	Z		Diode, Small Signal, Switching	itching			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	36252 N/R	102	189	13
188161		111	Z	Diode, Smal	Diode, Small Signal, General Purpose	neral Purpose			Not Applicable	icable	
	050	N/R	X /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	67756 N/R	102	189	13
1 <b>n</b> 821		N/R	٣	Diode, Zene	Diode, Zener, Voltage Reference	ference			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	165166 N/R	102	188	13
	030	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
1 <b>n</b> 821		<b>7</b> 0	Z	Diode, Zene	Diode, Zener, Voltage Reference	iference			Not Applicable	icable	
	700	0188 SS	SS s	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 N/R	123	0	10
1N823		TRC	Z		Diode, Zener, Voltage Reference	iference			Not Applicable	icable	
	020	N/R	<b>X</b> /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	39731 N/R	102	189	5
1N823		X/R	m	Diode, Zene	Diode, Zener, Voltage Reference	ference			Not Applicable	icable	
	030	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13

Part Number (Cont'd) 1N823	(p,	Part ESD Mfr Class MOT N		Part Description Diode, Zener, Voltage Reference	ference			Technology Not Applicable	cable	
	Source 400	ce Date Type 0188 SS	Test Test Test Test Source Date Type Resistance 400 0188 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Pulses Code Devices 400 N/R 10	Result PASSED	Test Voltage Pin Combination 43000 N/R	Failure Test <u>Criteria Remar</u> 123	Test General Remarks Remarks 0 10	rat 10
1n823	705	VAR 3		Diode, Zener, Voltage Reference 1500 Ohms 100E-12 F 5 N	ference 5 N/R	4 FAILED	10000 N/R	Not Applicable 68 252	able 252	13
1N825	700	MOT N	N Diode, Zen	Diode, Zener, Voltage Reference 1500 Ohms 100E-12 F 400 N	æ	10 PASSED	43000 N/R	Not Applicable	able 0	10
1 <b>n</b> 827	026	N/R N 0178 SS		Diode, Zener, Voltage Reference 100 Ohms 200E-12 F 1 N	ference 1 N/R	4 FAILED	6000 C(+) A(-)	Not Applicable 98 285	cable 285	13
1 <b>n</b> 827	700	MOT N		Diode, Zener, Voltage Reference 1500 Ohms 190E-12 F 400 N	8	10 PASSED	43000 ANODE TO CATHODE	Not Applicable	able 0	10
1NB27	405	VAR 3	3 Diode, Zer 1500 Ohms	Diode, Zener, Voltage Reference 1500 Ohms 100E-12 F 5 N	:ference 5 N/R	3 FAILED	10000 N/R	Not Applicable 68 252	cable 252	13
1 <b>n</b> 829	030	N/R 3 N/R N/R		Diode, Zener, Voltage Reference 1500 Ohms 100E-12 F 1 N N/R Ohms 100E-12 F 1 N	ference 1 N/R 1 N/R	1 PASSED 1 FAILED	1530U N/R 9080 N/R	Not Applicable 103 252 102 184	cable 252 184	13

	(Cont'd)	Part ESD Mfr Class		Part <u>Description</u>					Technology	ology	ļ	
1 <b>n</b> 829		<b>T</b> 01	N Diode,	, Zene	Diode, Zener, Voltage Reference	eference			Not Ap	Not Applicable	e.	
	Test	t Test Test	Test Test Test <u>Date Type Re</u> sistance		Test Capacitance	Number Date Number Pulses Code Devices	Test Result	Test Voltage Pin Combination	Failure Criteria	Test a Remarks	General S Remarks	je, ks
	007		1500 Ohms		100E-12 F	N/R	PASSED	43000 NODE TO CATHODE	123			12
1N829-1		MSC	3 Diode, Zen	Zener	er, Voltage Reference	eference			Not Ap	Not Applicable	<b>a</b>	
	436	0488 SS	1500 Ohms		100E-12 F	18 N/R	2 P.'SSED	4000 N/R	5	5 252	2	m
	436	1186 SS	1500 Ohms		100E-12 F	18 N/R	5 PASSED 5 PASSED 5 PASSED	4000 N/R 4000 N/R 4000 N/R	ν ν ν	252 252 252 3 252	222	ммм
	736	0588 SS	1500 Ohms		100E-12 F	18 N/R	3 PASSED	4000 N/R	5	552	2	м
1N829-1		NSC	3 Diode,	Zener	Diode, Zener, Voltage Reference	eference			Not Ap	Not Applicable	<b>u</b>	
	736	1186 SS	1500 Ohms		100E-12 F	18 N/R	5 PASSED	4000 N/R	ιΛ	2.2	C1	M
1N82A		JON.	1 Diode,	Micro	Diode, Microwave, Point Contact	Contact			Not Ap	Not Applicable	Q.	
	050	N/R N/R	R 1500 Ohms		100E-12 F	1 N/R	1 FAILED	579 N/R	102	189		13
1N82A		ALP	1 Diode,	Micro	Diode, Microwave, Point Contact	Contact			Not Ap	Not Applicable	QJ	
	020	N/R N/R	7 1500 Ohms		100E-12 F	1 N/R	1 FAILED	1200 N/R	102	189		13
1N914		TEX	3 Diode,	Small	Signal, Ger	Diode, Small Signal, General Purpose			Not Ap	Not Applicable	¢J	
	020	N/R N/R	1500 Ohms		100E-12 F	1 N/R	1 FAILED	6256 N/R	102	189		13
11014		N/R	3 Diode, Sma		Signal, Ger	l Signal, General Purpose			Not Ap	Not Applicable	<b>Q</b> J	
	030	N/R N/R	150C Ohms		100E-12 F	1 N/R	1 FAILED	11000 N/R	103	252		13

Part Number	t ESC Class	Technology	
140141	FSC 2 Diode, Small Signal, General Purpose	Not Applicable	
	Test Test Test Test Test Number Date Number Test Test Source Date Type Resistance Capacitance Pulses Code Devices Result Voltage Pin Combination 029 N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED 3653 N/R	Failure Test General Criteria Remarks Remarks 102 188 13	
3.0NF	N/R N Diode, Small Signal, General Purpose	Not Applicable	
	048 N/R SS 100 Ohms 218E-12 F 1 N/R 1 FAILED 3000 N/R	14 252 23	
149331	TRC 3 Diode, Small Signal, General Purpose	Not Applicable	
	029 N/R N/R 1500 Ohms 100E-12 F 1 N/R 1 FAILED 5727 N/R	102 189 13	
1 <b>N</b> 9 3 8 B	N/R 3 Dicde, Zener, Voltage Reference	Not Applicable	
	232 N/R N/R Ohms 100E-12 F 1 N/R 1 FAILED 5827 N/R	102 184 13	
149388	MSi 3 Diode, Zener, Voltage Reference	Not Applicable	
	394 0485 SS 1500 Ohms 100E-12 F 10 N/R 11 PASSED 4000 N/R	95 243 29	_
1,404.1	MOI N Diode, Zener, Voltage Reference	Not Applicable	
	→00 0188 SS 1500 Ohms 100E-12 F 400 N/R 10 PASSED 43000 ANODE TO CATHODE	123 0 10	_
\$. † 6. <del>*</del> 1	N/R 3 Diode, Zener, Voltage Reference	Not Applicable	
	330 N/R N/R 1530 Ohms 100E-12 F 1 N/R 1 FAILED 15000 N/R	103 252 13	
£ 7 > 4.	MOI N Diode, Zener, Voltage Reference	Not Applicable	
	40) 1287 SS 1500 Ohms 100E-12 F 400 N/R 10 FAILED 40000 ANODE TO CATHODE	122 0 10	0

-		67. • • •	ý.	₽ E							
	į	(SE)		<u> </u>	- us				Technology		,
00177		Υ -: -	z	Stode, Ze	Slode, Zener, Voltage Reference	etenence			Not Applicable	able	
	*/ 3 E	174	1685	iest lest	Iest	Number Date Number	Test	Test	Failure Test	t General	ral
	Source	e pate	Type		e Capacitance Pulses	Julses Code Devices		Result Voltage Pin Combination		Š	rks
	232	X/R	%/X	N/R Ohms	100E - 12 +	1 N/8		26556 N/R	102		13
1 - 80 to 81	-	a <b>X</b> J	М	Clode, 2er	Clode, Zener, Voltage Reference	sference			Not Applicable	ab! e	
	£ 5	1136.88	\$8	1500 Obas	100E-12 F	18 N/R	1 PASSED	לינוסט א/צ	5	252	3
34+5N		α/ <b>χ</b>	2	Diode, Zer	Diode, Zener, Voltage Reference	iference			Not Applicable	abl e	
	232	N/N	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	24770 N/R	102	184	13
<b>140.</b> 58	2	<b>8</b> / R	z	Diode, Zer	Diode, Zener, Voltage Reference	ference			Not Applicable	ıble	
	232	8/N	× / ×	N/R Ohms	100E-12 F	1 N/R	1 FAILED	17762 N/R	102	184	13
149508	<b>P</b>	T.R.E.	z	Diode, Mic	Diode, Microwave, Var. Gap. (Valactor)	ap. (Valactor)			Not Applicable	ble	
	670	α ×	x /8	1500 Ohms	100E-12 F	1 N/R	1 FAILED	36551 N/R	102	189	13
£96 <b>%</b> ,	<b>3</b> .	<b>10</b> E	z	Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	ble	
	400	0188	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 N/R	123	0	10
85.66 <b>4</b> 5	۵	210	z	Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	ble	
	620	∝ *	<b>X</b> /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	34847 N/R	102	188	13
796 <b>%</b> ,	Σ	MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	gulator			Not Applicable	ble	
	400	1287 SS		1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10

Part Number NVo.8	Purt E	ESD Class	Part Description Diode, Zener,	Voltage Regulator			Technology Not Applicable	37 cable	
	Test Test	Test Test Test	. š	Number Date	Number Date Number Test	Test	Failure Te		Generat
		Type N/R	Resistance 1500 Ohms	Capacitance Pulses Code 100E-12 F 1 N/R	비유	Voltage Pin Combination 32725 N/R	Criteria Remarks 102 188	emarks Rei 188	Remarks 13
396N:	MOT	z	Diode, Zener, Voltage Regulator	ge Regulator			Not Applicable	icable	
	400 0138	s ss	1500 Ohms 100E-12	F 400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
119658	210	z	Diode, Zener, Voltage Regulator	ge Regulator			Not Applicable	icable	
	029 N/R	<b>₹</b>	1500 Ohms 100E-12	F 1 N/R	1 FAILED	18131 N/R	102	188	13
1N965B	MOT	z	Diode, Zener, Voltage Regulator	ge Regulator			Not Applicable	icable	
	029 N/R	N/R	1500 Chms 100E-12	F 1 N/R	1 FAILED	39297 N/R	102	189	13
189558-1	N/R	20	Diode, Zener, Voltage Regulator	ge Regulator			Not Applicable	icable	
	030 N/R	α. <b>≵</b>	1500 Ohms 100E-12	F 1 N/R	1 PASSED	15300 N/R	103	252	13
0 ?	MOT	z	Diode, Zener, Voltage Regulator	ge Regulator			Not Applicable	cable	
	±0 1287	ss ,	1500 Ohms 100E-12	F 400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
1,4986.3	₩OT	3	Diode, Zener, Voltage Regulator	ge Regulator			Not Applicable	cable	
	594 0485	SS 9	1560 Ohms 100E-12	F 10 N/R	11 PASSED	4000 N/R	56	252	58
· .	MOT	z	Diode, Zener, Voltage Regulator	ge Regulator			Not App.icable	icable	
	8/h 68%	8/8	1500 Ohms 100E-12	F 1 N/R	1 FAILED	24615 N/R	102	189	13

Part Number (Cont'd)	(p,1	Part ESD Mfr Class		Part <u>Description</u>					Technology	760	ļ
1N967		MOT	N Diod	e, Zene	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	icable	
	Test	t Test Te	Test Test Test		Test	Number Date Number	Test	Test	Failure Test		General
	Soul	e)	Pe Resi		Capaci tance	Ju P	Result	Voltage Pin Combination	Criteria Remarks	emarks Re	Remarks
	700	1287 SS		1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	5
1N9678-1		N N	3 Diode	. Zenel	Diode, Zener. Voltage Regulator	Regulator			Application	0 	
						•					
	030	N/R N/R		1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
11968		MOT	N Diode	è, Zene	Diode, Zener, Voltage Regulator	legulator			Not Applicable	icable	
	00%	1287 SS		1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
1N9688		R/R	3 Diode	,, Zener	Diode, Zener, Voltage Regulator	egulator			Not Applicable	icable	
	030	N/R N/R		1500 Ohms 1	100E-12 F	1 N/R	1 FAILED	15000 N/R	103	252	13
1 <b>N</b> 969		MOT	N Diode	ener,	Diode, Zener, Voltage Regulator	tegulator			Not Applicable	icable	
	007	0188 SS	1500 Ohms		100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N9708		210	N Diode	Diode, Zener	er, Voltage Regulator	egulator			Not Applicable	icable	
	050	N/R N/R	R 1500 Ohms		100E-12 F	1 N/R	1 FAILED	84360 N/R	102	188	13
1N971		MC T	N Diode	Diode, Zener	er, Voltage Regulator	egulator			Not Applicable	icable	
	700	1287 SS	1500 Ohms		100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
140718-1		Į.	ر ماره ن	70007	niode Zener Voltage Basilator					-	
				י זכוובו	, יסוומשפ א	io le lufa.			Not Applicable	1cab(e	
	394	0485 SS	1500 Ohms		100E-12 F	10 N/R	11 PASSED	4000 N/R	95	252	53

Part		Parc 30	SD	Part Description	Ç				Technology	<b>X</b>	1
1N972B			Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	Sour Sour	Test Test Source Date 029 N/R	t Test Type N/R	Test Test Test Test Source <u>Date Type Resistance</u> 029 N/R N/R 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Test Pulses Code Devices Resu 1 N/R 1 FAIL	#I &	Test Voltage Pin Combination Calculation C	Failure Test Criteria Remarks 102 188		General Remarks 13
11973		£			Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N973B		HAU	Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	059	N/N	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	730704 N/R	102	188	13
1N974		MOT	Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007		1287 ss	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANDDE TO CATHODE	122	0	10
1149748		MOT	z	Diode, Zen	Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	76205 N/R	102	188	13
1N976		MOT	Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007	0188	s ss	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANDDE TO CATHODE	123	0	10
1N981		MOT	z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N981B		MOT	Z		Diode, Zener, Voltage Regulator	egulator			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	32082 N/R	102	189	13

Part Number 1N985		Part E Mfr (	ESD Class		Part Description Diode, Zener, Voltage Regulator	Regulator			Technology Not Applicable	gy icable	Į
	Test	Q.	t Test P Type	Test Test Test Date Type Resistance	Test Paparitanes	Number Date	,	Test			General
	007	1	0188 SS			400 N/R	10 PASSED	PASSED 43000 ANODE TO CATHODE	123	Remarks Rem	Remarks 10
18987		MOT	z	Diode, Ze	Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	700		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
11988		MOT	z		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	007	0188	s ss	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 ANODE TO CATHODE	123	0	10
1N992B		MOT	Z		Diode, Zener, Voltage Regulator	Regulator			Not Applicable	cable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 ANODE TO CATHODE	122	0	10
2023-10		MAS	-	Transistor,	r, Microwave/RF	<u>u.</u>			Not Applicable	cable	
	410	1181 GN	B	1500 Ohms	100E-12 F	10 N/R	1 PASSED	1000 N/R	102	252	13
2N1016B		WES	Z	Transistor,	⁻, High Power,	NGN			Not Applicable	cable	
	029	X /R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3744.5 E(+) B(-)	102	189	13
2"1039		TEX	Z	Transistor,	, High Power,	NGN			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	34323 B(+) E(-)	102	189	13
2N1099		DEL	z	Transistor,	', High Power, NPN	NdN			Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	27917 B(+) E(-)	102	189	13

Part		Part	ESD	Part Description	c				Technology	2	
2N1115			2	Transistor	, Low Power, PNP	PNP			Not Applicable	icable	1
	Source 029	Test Ce Date N/R	Test Test Test Date Type Resi N/R N/R 1500	Test Test Test Test Source Date Type Resistance 029 N/R N/R 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code Devices Result 1 N/R 1 FAILED		Test Voltage Pin Combination 17911 B(+) E(-)	Failure Test Criteria Remarks 102 189	est Genemarks Rem 189	General Remarks 13
2N1116A		TRC	2	Transistor	Transistor, Low Power, NPN	NPN			Not Applicable	icable	
	050	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	92846 E(+) B(-)	102	189	13
2N1118		SPR	₩	Transistor,	', LOW POWEF, PNP	PNP			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	13005 B(+) E(-)	102	189	13
2N1132		FSC	3	Transistor	, tow Power, PNP	and			Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	14066 B(+) E(-)	102	189	13
2N1132		MOT	2	Transistor	, Low Power, PNP	dNd			Not Applicable	icable	
	700	0188	8 SS	1500 Ohms	100E-12 F	288 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
241132A		FSC	3	Transistor,	, Low Power, PNP	dNd			Not Applicable	icable	
	620	N/R	χ χ	1500 Ohms	100E-12 F	1 N/R	1 FAILED	9185 B(+) E(-)	102	189	13
241132A		RAY	z	Transistor,	', Low Power,	dNd			Not Applicable	icable	
	050	<b>X</b> ∕ R	X X	15°J Ohms	100E-12 F	1 N/R	1 FAILED	17906 B(+) E(-)	102	189	13
24:132A		<b>A</b> 01	~	Transistor,	, LOW POWER, PNP	dNd			Not Applicable	icable	
	<b>6</b> €⊕	α ∕ ₹	¥ / ₽	1500 Ohms	100E-12 F	1 N/R	1 FAILED	13423 B(+) E(-)	102	189	13

Part		Part	ESO	Part Description	c				Technology	>	
2N1204			2		Transistor, Low Power, PNP	d.			Not Applicable	cable	
	Source 029	t Test rce Date N/R	Test Test Test Date Type Resi N/R N/R 1500	Test Test Test Test Source Date Type Resistance 029 N/R N/R 1500 Ohms	Test Capacitance 100E-12	Number Date Number Pulses Code Devices 1 N/R	Test Result FAILED	Test Voltage Pin Combination 2787 B(+) E(-)	Failure Test Criteria Remarks 102 189	Gener Remar	al ks
2N1308		TEX	-		Transistor, Low Power, PWP				Not Applicable	cable	
	020	N/R	N/R	1500 ОҺтѕ	100E-12 F	1 N/R	1 FAILED	1892 E(+) B(-)	102	188 1	13
2N1308		15	M	Transistor	Transistor, Low Power, PNP	<u>a</u>			Not Applicable	cable	
	020	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	8272 E(+) B(-)	102	189	13
2N1469		SOL	Z	Transistor.	Transistor, Low Power, PNP	<u>a</u> .			Not Applicable	cable	
	029	N/R	ж Ж	1500 Ohms	100E-12 F	1 N/R	1 FAILED	23857 B(+) E(-)	102	189	13
2N1485		SEN	2	Transistor	Transistor, Low Power, NPN	2			Not Applicable	cable	
	029	N/R	<b>X</b> /R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	41077 E(+) B(-)	102	188	5
2N1486		SEN	Z	Transistor	Transistor, Low Power, NPN	2			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	36839 E(+) B(-)	102	188	13
2N1486		PPC	₩	Transistor	Transistor, Low Power, NPN	<del>2</del>			Not Applicable	cable	
	736		0588 SS	1500 Ohms	100E-12 F	18 N/R	3 PASSED 3 PASSED	4000 N/R 4000 N/R	S S	252 252	мм
2N1596		TEX	Z	Thyristor,	SCR				Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	24381 8(+) E(-)	102	189 1	13

Part		Part 1	ESD	Part Description	c				Technology	>	
2N1602			Z	Thyristor, SCR	SCR		E		Not Applicable	cable	ĺ
	Test	Test	t Test	Test	Test	Number Date Number	Test	Test	Failure Test		General
	Source 029	ce Date	e Type	Resistance	Capacitance	Pulses Code Dev	Devices Result	Voltage Pin Combination 18880 B(+) E(-)	Criteria Remarks		Remarks 13
		•				•					
2N1613		MOT	z	Transistor	Transistor, Low Power, NPN	NON			Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	29490 E(+) B(-)	102	189	13
	700	128	1287 ss	1500 Ohms	100E-12 F	350 N/R	10 FAILED	35060 REV. BIAS E TO B	122	0	10
2N1642		TEC	٣	Tremistor					Not Applicable	cable	
	050	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	10756 B(+) E(-)	102	189	13
2N1711		FSC	٣	Transistor	Transistor, Low Power, NPW	ΝĠΝ			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	10411 E(+) B(-)	102	189	13
2N1711		MOT	8	Transistor	Transistor, Low Power,	Ndk			Not Applicable	cable	
	050	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	10411 E(+) B(-)	102	189	13
2N1711		N/R	3	Transistor	Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	10337 E(+) B(-)	102	188	13
2N176		MOT	z	Transistor	or, High Power, NPN	N Q			Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	31013 B(+) E(-)	102	188	13

Part Number 2N1774A	Part Mfr N/R	t ESD Class 3	Part <u>Description</u> Thyristor, S	SCR				Technology Not Applicable	17 cable	
	Test Test Source Date 030 N/R		Test Test Type Resistance N/R 1500 Onms	Test <u>Capacitance</u> Pu 100E-12 F	Number Date Number Pulses Code Devices 1 N/R	Test Result FAILED	Test Voit <b>inge Prin Complimation</b> 15000 N/R	Failure Test Criteria Remarks 103 252		General Remarks 13
2N1777A	GE 029 N/	N/R N/R	Thyristor, 1500 Ohms	SCR 100E-12 F	ν 2	1 FAILED	59685 B(+) E(-)	Not Applicable 102 189	cable 189	13
2N1893	FSC 029 N/	N/R N/R		Transistor, Low Power, NPN 1500 Ohms 100E-** F	1 N/R	1 FAILED	18535 E(+) B(-)	Not Applicable	cable 189	13
2N1893	MOT 400 12	ır 3 1287 SS		Transistor, Low Power, NPN 1500 Ohms 100E-12 F	127 N/R	10 FAILED	12700 REV. BIAS E TO B	Not Applicable	cable 0	10
2N190	ETC 029 N/	C N N/N N/R	Transister, 1500 Ohms	10.4 - Word, PNP	. '. 'R	FAILED	22/35 3(*) E( )	Net Applicable	cable 189	13
2 <b>w</b> 2660	N/R 232 N/	R 3	Transistor, W/R Chos.	<b>X</b> uctoble,	Differ, AmpGilter	7) 		No: Applicable	ba. algeo	<del>د</del>
2 <b>\</b> 2005	MOT 400 01	11 N 0188 SS	Tracsistor, 1500 Ohms	Mustre.e, 21ff. 1988-12 F	a A A	19; PASSED	43000 HELL MAS 1 12/3	708 308 801	0 0 #024	2
242102	NSC 029 N/R	χ χ χ χ	Transistor, 1500 Onms 1	Ніда Ромог, мРМ 1606-12 F	g/ <b>N</b>	1 FAILED	19499 E( - 3( )	Not Applicable	cable 138	13

Part Number		Part ESD Mfr Cla	9	Part Description	Co					:	
2N2105			~	Transisto	Transistor, LOW Power, PNP	:			Not Applicable	cable	1
	Test		Test Test Test Date Type Resi	Test Resistance	Test Capacitance	Number Date Number Dates Code Devices		Test		1	General
	451	0184	SS	1500 Ohms	100E - 12 F	=		FAILED 2200 N/R	102	252	13
2N2151		N/N	z	Iransistor	Transistor, High Power, NPN	NdX			Not Applicable	cabi e	
	232	X / R	Ν Α	N/R Ohms	100E-17 F	1 N/R	1 FAILED	50408 N/R	102	184	13
2N2198		ETC	z	Iransistor	Transistor, Low Power, NPN	Nan			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	N/N	1 FAILED	21886 E(+) B(-)	102	189	13
2N2219	-	MOT	٣	Iransistor	Transistor, Low Fower, NPN	NGN			Not Applicable	cable	
	007	1287	SS	1500 Ohms	100E-12 F	89 N/R	10 FAILED	8900 REV. BIAS E TO B	122	0	10
2N2219A		N/R	~	Transistor	Transistor, Low Power, NPN	NDN			Not Applicable	cable	
	232	α <b>χ</b>	8/8	N/R chas	1005-10 :	d/k :	1 PAILES	7991 N/R	102	184	13
2N2219A	~	MOT	2	Iransistor	Indostator, Low Power, NPN	Z Z			Not Applicable	sable	
	436	1136	SS	1500 Ohms	100E-12 F	15 N/R	5 FAILED	3000 COLLECTOR TO BASE	2	172	3
2N2222	_	FSC	м	Transistor	Transistor, Low Power, NPN	N d Z			Not Applicable	sable	
	020	α > <b>2</b>	N/N	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	22863 E(+) B(-) 8298 E(+) B(-)	102 102	189	13 13
2N2222	~	MOT	W	Transistor	Transistor, Low Power, NPN	N d N			Not Applicable	cable	
	007	1287 SS		1500 Ohms	100€-12 F	96 N/R	10 FAILED	9600 REV. BIAS E 10 B	122	0	10

Part Number (Con 2N2222	(Cont'd)	Part ESD Mfr Class N/R 3		Description Transistor, Low Power, NPN	NAN			Technology Not Applicable	cable	1
	Test	Test Test Test	st Test	Test	Number Date Number	Test	Test	Failure Te	Test Ger	General
	Sour	ce Date IV	Source Date Type Resistance	Capacitance	Code	Result	Voltage Pin Combination			Remarks
	048	N/R SS	100 Ohms	218E-12 F	N/R	1 FAILED	1000 N/R	<del>.</del> 5	252	23
2N2222A		111	3 Transistor	Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	026	0178 SS	100 Ohms	200E-12 F	N/R	4 FAILED	1600 E(+) B(-)	3	285	13
2N2222A		HOT 1	1 Transistor	Transistor, Low Power, NPN	NON			Not Applicable	cable	
	705	0887 SS	1500 Ohms	100E-12 F	5 N/R	24 FAILED	4000 N/R	89	579	13
	736	1186 SS	1500 Ohms	100E-12 F	13 N/R	3 FAILED	1800 BASE TO COLLECTOR	Σ	252	3
	927	1186 SS	1500 Ohms	100E-12 F	16 N/R	1 FAILED	3000 EMITTER TO BASE	5	252	~
	736	1186 SS	1500 Ohms	100E-12 F	18 N/R	31 PASSED	4000 N/R	\$	252	M
	736	1186 SS	1500 Ohms	100E-12 F	5 N/R	1 FAILED	600 BASE TO COLLECTOR	5	252	3
	736	1186 SS	1500 Ohms	100E-12 F	15 N/R	25 FAILED	2500 COLLECTOR TO BASE	\$	252	2
	927	1186 SS	1500 Ohms	100E-12 F	17 N/R	5 FAILED	3500 EMITTER TO BASE	S	252	٣
	736	1186 SS	1500 Ohms	100E-12 F	16 N/R	16 FAILED	3000 E TO B ANU C TO B	r	252	٣
2N2222A		RAY	2 Transistor	Transistor, Low Power, NPN	NON			Not Applicable	cable	
	927	1186 SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED	4600 N/R	\$	252	2
	736	1186 SS	1500 Ohms	100E-12 F	16 N/R	5 FAILED	3000 EMITTER TO BASE	ιΩ	252	٣
2N2222A		N/R	3 Transistor	Transistor, Low Power, NPN	NGN			Not Applicable	cable	
	030	N/R N/R	R 1500 Ohms	100E-12 F	1 4/R	1 FAILED	10000 N/R	103	252	13

Part	(Cont'd)	Part ESD Mfr Clas	ESD	Part Description	C				Technology	>	
2N2222A			m	Transistor	Transistor, Low Power, NPN	NON			Not Applicable	icable	
	Test	Tesi	Test Test Test	Test	Test	Date	fest	Test	Failure I		General
	051	N/R	SS SS	350 N/R SS 1500 Ohms	Lapacitance 100E-12 F	Pulses Code Der	Devices Result V	Voltage Pin Combination	Criteria Remarks 102 252		Remarks 13
	232	N/N	N/N	N/R Onms	100E-12 F	1 N/R	1 FAILED	7914 N/R	102	781	13
2N2297		FSC	Z	Transistor	Transistor, Low Power, NPN	NGN			Not Applicable	icable	
	620	χ Χ	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	20754 E(+) B(-)	102	189	13
2N2297		RAY	z	Transistor	Transistor, Low Power, ∿∂N	NC			Not Applicable	icable	
	620	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	20754 E(+) B(-) 24490 E(+) B(-)	102 102	189 189	£1 £1
2N2323		GE	z	Thyristor,	SCR				Not Applicable	icable	
	050	N/R	χ χ	1500 Ohms	100E-12 F	Z X X	1 FAILED	16543 E(+) B(-)	102	189	13
2N2323		I NO	3	Thyristor,	SCR				Not Applicable	icable	
	436	1186	1186 SS	1500 Ohms	100E-12 F	18 N/R	2 PASSFD	4000 N/R	2	252	M
2N2323A		1EL	-	Thyristor,	scR				Not Applicable	cable	
	927	1186 SS	SS o	1500 Ohms	100E-12 F	5 N/R	2 FAILED	600 COLLECTOR TO BASE	\$	252	m
2N2326		INO	2	Thyristor,	SCR				Not Applicable	cable	
	392	0386 SS	SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	3000 A-C (+ -)	19	255	13

Part		٠, ٠,	ESD	Part Description					Technology	37	ţ
2N2346		ge GE	z	Thyristor,	SCR				Not Applicable	cable	
	Test	Test	t Test	Test	Test N	Number Date Number	Test	Test	Failure Te	Test Gen	General
	Sour	Source Date 029 N/R		Type Resistance N/R 1500 Ohms	Capacitance 100E-12 F	Pulses Code Devi	Devices Result Vo	Voltage Pin Combination 58170 E(+) B(-)	Criteria Remarks 102 189		Remarks 13
2N2369		<b>X</b>	2		Transistor, Low Power, NPN	Ndi			Not Applicable	cable	
	ට <sub>්</sub>	1287	. SS	1500 Ohms	100E-12 F	22 N/R	10 FAILED	2200 REV. BIAS E TO B	122	0	10
	505	0387	38 2	1500 Ohms	100E-12 F	5 N/R	1 FAILED	6000 N/R	89	280	13
2N2369A		<b>%</b> \ <b>%</b>	2		Transistor, Low Power, NPN	N d			Not Applicable	cable	
	330	X X	.× .≺ .R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	4000 N/R	103	252	13
	048	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	460 N/R	15	252	23
	232	<b>X</b> / X	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	4293 N/R	102	184	13
2N2405		۵ 2	3	Transistor,	Transistor, High Power, NPN	NdN			Not Applicable	cable	
	620	χ α/	8/8	1500 Chms	100E-12 F	1 N/R	1 FAILED	15646 E(+) 3(-)	102	188	13
2N2432		TEX	3	Transistor,	Special fund	Transistor, Special function, Chopper, Dual Emitter	Dual Emitter		Not Applicable	cable	
	050	N/R	X X	1560 Ohms	100E-12 F	1 N/R	1 FAILED	7764 E(+) B(-)	102	188	13
242432A		<b>x</b> /x	2	Transistor,	Special func	Transistor, Special Function, Chopper, Dual Emitter	Dual Emitter		Not Applicable	cable	
	043	#/# 8	SS	100 Ohms	218E-12 F	1 N/P	1 FAILED	620 N/R	15	252	23
2N2453		FSC	3	Transistor,	Transistor, Low Power, NPN	Ndi			Not Applicable	icable	
	620	α ₹	N/N	1500 Ohms	100E-12 F	1 N/R	1 FAILED	8100 E(+) B(-)	102	189	13

Part	(Cont.d)	Part	ESD Class	Part Description	Ş				Technology	≥	
2N2453		ě			Transistor, Low Power, NPN	NON			Not Applicable	cable	ļ
	Test	Ţ Ţ	st Tes	Test Test Test	Test	Number		Test	Failure Te	Test Ger	General
	<u> </u>	ce Date	al IVE	Source Date Type Resistance	Capacitance	Pulses	Code Devices Result V	Result Voltage Pin Combination	Criteria Remarks Remarks	marks Ren	Parks
	Š								2	<u> </u>	2
2N2481		FSC	m		Transistor, Low Power, NPN	NDN			Not Applicable	cable	
	020	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	4214 E(+) B(-)	102	188	13
2N2483		FSC	M		Transistor, Low Power, NPN	N d			Not Applicable	cable	
	029	N/R	R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5499 E(+) B(-)	102	188	13
2N2484		FSC	M		Transistor, Low Power, NPN	N V			Not Applicable	cable	
	020	X/R	R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	7047 E(+) B(-)	102	188	13
2N2484		MOT	М		Transistor, Low Power, NPN	N			Not Applicable	cable	
	007		1287 SS	1500 Ohms	100E-12 F	44 N/R	10 FAILED	4400 REV. BIAS E TO B	122	0	10
	705		0887 SS	1500 Ohms	100E-12 F	5 N/R	9 FAILED	9000 N/R	89	276	13
2N2484		N/R	M		Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	030	N/R	R W/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5000 N/R	103	252	13
2N2540		N/R	М		Transístor, Low Power, NPN	NGN			Not Applicable	icable	
	048	N/R	R SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	1450 N/R	15	252	23

Part		Part	ESD	Part	c				Technology	>	
2N2608					Transistor, Field Effect, Junction, P-Channel	Junction, P-(	Channel		Not Applicable	cable	1
	Test Sourc 048	9	Test Test Date Type N/R SS	Test Test Test <u>Date Type Resistance</u> N/R SS 100 Ohms	Test <u>Capacitance</u> 218E-12 F	Number Date Number Test Pulses <u>Code Devices Resu</u> 1 N/R 1 FAILI		Voltage Pin Combination S20 N/R	Failure Test Criteria Remarks 16 252	est General	eral 23
2N2608	9	윺	<del>-</del> ;	Transistor	Transistor, Field Effect, Junction, P-Channel	Junction, P-(	Channel		Not Applicable	cable	9
2N2609	0007	ž	1287 SS R 2		1500 Ohms 100E-12 F 5 N/R 10 FA Transistor, Field Effect, Junction, P-Channel	5 N/R Junction, P-C	10 FAILED Channel	460 REV. BIAS E TO B	122 0 Not Applicable	0 cable	9
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3000 N/R	103	252	13
5N2609		MOT	-	Transistor	Transistor, Field Effect, Junction, P-Channel	Junction, P-C	Channel		Not Applicable	cable	
	007		1287 SS	1500 Ohms	100E-12 F	8 N/R	10 FAILED	770 REV. BIAS E TO B	122	0	10,
2N2708		ETC	2		Transistor, Low Power, NPN				Not Applicable	cable	
	059	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	2216 E(+) B(-)	102	188	13
2N2801		FSC	М		Transistor, Low Power, PNP				Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	9644 B(+) E(-)	102	189	13
2N2801		MOT	ĸ		Transistor, Low Power, PNP				Not Applicable	cable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	13744 B(+) E(-)	102	189	13
2N2857		N/R	-	Transistor	Transistor, Microwave/RF, I	Bipolar			Not Applicable	cable	
	028	N/R	SS	1500 Ohms	117E-12 F	30 N/R	5 FAILED	1500 N/R	115	252	13

			ç	100					Technology	,	
2N2857	(cont. d)	MOT 1		Transistor,	Transistor, Microwave/RF, Bipolar	, Bipolar			Not Applicable	cable	J
	Source 029	8	Test Test Test  Date Type Resistance N/R N/R 1500 Ohms	4.1	Test Capacitance F 100E-12 F	Number Date Number Pulses Code Devices 1 N/R 1	Number Test T Devices Result V 1 FAILED	Test Test Result Voltage Pin Combination FAILED 2741 E(+) B(-)	Failure Test Criteria Remarks 102 188		General Remarks 13
	026	0178 SS	100	Ohms 2	200E-12 F	1 N/R	4 FAILED	290 E(+) B(-)	99	285	13
	007	1287 SS	S 1500 Ohms		100E-12 F	9 N/R	10 FAILED	900 REV. BIAS E TO B	122	0	10
2N2857		VAR	2 Trans	istor,	Transistor, Microwave/RF, Bipolar	F, Bipolar			Not Applicable	cable	
	705	0787 SS		1500 Ohms 1	100E-12 F	5 N/R	4 FAILED	2250 N/R	89	252	13
2N2894		RAY	3 Trans	istor,	Transistor, Low Power, PNP	dNo			Not Applicable	cable	
	020	N/R N/	N/R 1500 Ohms		100E-12 F	1 N/R	1 FAILED	5405 B(+) E(-)	102	188	13
2N2894		MOT	2 Trans	istor,	Transistor, Low Power, PNP	dNo			Not Applicable	cable	
	707	0787 SS		1500 Ohms 1	100E-12 F	5 N/R	5 FAILED	3000 N/R	89	252	13
2N2896		MOT	3 Trans	istor,	Transistor, Low Power, NPN	N Q			Not Applicable	cable	
	007	1287 SS	s 1500 Ohms		100E-12 F	130 N/R	10 FAILED	13000 REV. BIAS E TO B	122	0	10
2N2904A		N/R	3 Trans	istor,	Transistor, Low Power, NPN	NAZ			Not Applicable	cable	
	232	N/R N	N/R N/R	Ohms 1	100E-12 F	1 N/R	1 FAILED	7189 N/R	102	184	13
2N2905		N/R	3 Trans	istor,	Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	030	N/R	N/R 1500 Ohms		100E-12 F	1 N/R	1 FAILED	11000 N/R	103	252	13

Part Number (Col 2N2905	(Cont'd)	Part Mfr N/R	ESD Class 3		Part <u>Description</u> Transistor, Low Power, PNP	dNo			Technology Not Applicable	cable	}
	Test	ė,	Test Test Date Type	t Test e Resistance	Test Capacitance	Number Date Number Test Pulses Code Devises Resul	+	Test Valtada Din Combination	Failure Test		General
	232	1	X/R		100E-12 F	N/R	1 FAILED	7189 N/R	102 184		13
2N2905		MOT	Z		Transistor, Low Power, PNP	dNo			Not Applicable	cab(e	
	700		1287 SS	1500 Ohms	100E-12 F	250 N/R	10 FAILED	24140 REV. BIAS E TO B	122	0	10
2N2905A		N/R	M	Transistor,	Transistor, Low Power, PNP	dN			Not Applicable	cable	
	030	N/R	<b>8</b> ∕8	1500 Ohms	100E-12 F	1 N/R	1 FAILED	11300 N/R	103	252	13
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	7189 N/R	102	184	13
2N2905A		RAY	M		Transistor, Low Power, PNP	Q.			Not Applicable	cable	
	736	0588	8 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	\$	252	м
	9£7		1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	2	252	м
2N2905A		MOT	8	Transistor,	Transistor, Low Power, PNP	άχ			Not Applicable	cable	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	ī.	252	м
9062N		MOT	M	Transistor,	Transistor, Low Power, PNP	ď			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6018 B(+) E(-)	102	189	13
2N2907		MOT	2	Transistor,	Transistor, Low Power, PNP	<u> </u>			Not Applicable	cable	
	050	N/R	N/R	N/R N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	10914 B(+) E(-)	102	189	13

287 SS 287 SS 387 SS 3888 SS
N/R SS N/R N/R 1186 SS 1186 SS 0178 SS N/R SS

Part			as	Part							
2N2919		Š.	2 2	Transistor,	or, Multiple, Differ. Amplifier	iffer. Ampli	fier		rechnology Not Applicable	cable	1
	Source	91	Test Test Test  Date Type Resis	stance	읭	di dil	Number Test Devices Result	ا≷ ∸			General Remarks
	4	8 5	SS	1500 Ohms	100E-12 F	51 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	9
2N2920		FSC	٣	Transistor,	Transistor, Multiple, Differ. Amplifier	iffer. Ampli	fier		Not Applicable	cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5682 E(+) B(-)	102	189	13
2N2920		MOT	3	Transistor,	Transistor, Multiple, Differ. Amplifier	iffer. Ampli	fier		Not Applicable	cable	
	700	1287	SS	1500 Ohms	100E-12 F	68 N/R	10 FAILED	6800 REV. 81AS E TO B	122	0	10
2N2945		MOT	~	Transistor,	Transistor, Special Function, Chopper	ction, Choppe	٤		Not Applicable	cable	
	059	N/R	N/R	1500 Ohms 1	100E-12 F	1 N/R	1 FAILED	2450 B(+) E(-)	102	188	13
2N2946A		N/R	M	Transistor,	Transistor, Special Function, Chopper	ction, Choppe	۵		Not Applicable	cable	
	232	N/R	N/R	N/R Ohms 1	100E-12 F	1 N/R	1 FAILED	6093 N/R	102	184	13
2N297A		BEN BEN	z	Transistor,	Transistor, High Power, NPN	NPN			Not Applicable	cable	
	620	N/R	N/R	1500 Ohms 1	100E-12 F	1 N/R	1 FAILED	32094 B(+) E(-)	102	189	13
2N297A		MOT	z	Transistor,	Transistor, High Power, NPN	NPN			Not Applicable	cable	
	620	N/R	x/R	1500 Ohms 1	100E-12 F	1 N/R	1 FAILED	26387 B(+) E(-)	102	189	13
2N3013		MOT	М	Transistor,	Transistor, low Power, NPN	Ndi			Not Applicable	cabl e	
	007	1287 SS		1500 Ohms 1	100E-12 F	123 N/R	10 FAILED	12300 REV. BIAS E TG 3	122	0	0

Part	u		9	Part	9				Technology	>	
2N3019		SA A	Z Z	ransistor	Transistor, Low Power, NPN	NPN			Not Applicable	cable	[
	Test		4. 4.1	Test Resistance	Test	Number		Test Test Result Voltage Pin Combination	Failure Test General Criteria Remarks Remarks	st Ger marks Red	General Remarks
	<b>6</b> 20	x x	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	18/US E(+) B(-)	<u> </u>	8	2
2N3019	<b></b>	MOT	3 1	Iransistor	Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	700	1287 SS		1500 Ohms	1500 Ohms 100E-12 F	159 N/R	10 FAILED	15900 REV. BIAS E TO B	122	0	10
2N3019	•	N/R	ω_	Iransistor	Transistor, Low Power, NPN	NGN			Not Applicable	cabí e	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	12000 N/R	103	252	13
	232	N/R	N/R N	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12492 N/R	102	184	13
2N3019		VAR	м	Transistor	Transistor, Low Power, NPN	NGN			Not Applicable	cable	
	705	0787	SS	1500 Ohms	100E-12 F	5 N/R	10 FAILED	6000 N/R	89	252	13
2N3030	-	N/R	₩	Thyristor, SCR	, SCR				Not Applicable	cable	
	048	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	1000 N/R	17	252	23
2N3055	_	R/R	z	Transisto	Transistor, High Power, NPN	N dd			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	66396 N/R	102	184	13
2N3057	_	MSC	m	Transisto	Transistor, Low Power, NPN	NPN			Not Applicable	icable	
	620	N/R	Z / Z	1500 Ohms	100E-12 F	1 N/R	1 FAILED	10840 E(+) B(-)	102	188	13

Part Number		Part B	ESD Class	Part Description	c				Tochoot	,	
2N3112			2	Transistor	Transistor, Field Effect, Junction, P-Channe	, Junction, F	-Channel		Not Applicable	cable	1
	Sour	Test Test Source Date	Test Test Test Date Type Besis	Test Test Test Test Source Date Type Besistance	Test	Number Date Number	Test	Test	Failure Test	st Ger	General
	870	¥ 1	SS	100 Ohms	218E-12 F	1 N/R 1	FAILED	530 N/R	16 CFITERIA REMARKS	narks Red 252	Remarks 23
2N3114		FSC	m	Transistor	Transistor, Low Power, NPN	Z.			Not Applicable	aple	
	020		N/R	N/R N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	10564 E(+) B(-)	102	188	13
2N3117		N/N	м	Transistor,	Transistor, Low Power, NPN	N.			Not Applicable	able	
	048	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	1000 N/R	15	252	23
2N3227		MOT	8	Transistor,	Transistor, Low Power, NPN	<b>2</b> ₹			Not Applicable	able	
	700		1287 SS	1500 Ohms	100E-12 F	72 N/R	10 FAILED	7200 REV. BIAS E TO B	122	0	10
2N3250A		N/R	W	Transistor,	Transistor, Low Power, PNP	Ğ.			Not Applicable	able	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	6205 N/R	102	184	13
2N3251		RAY	M	Transistor,	Transistor, Low Power, PNP	Ā			Not Applicable	able	
	050	N/R	X/X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6064 B(+) E(-)	102	188	13
2N3251		MOT	٣	Transistor,	Transistor, Low Power, PNP	4			Not Applicable	able	
	700	1287	SS	1500 Ohms	100E-12 F	115 N/R	10 FAILED	11500 REV. BIAS E TO B	122	0	10
	400	0188 SS		1500 Ohms	100E-12 F	41 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	5

Part		Part ESD	ESD								
Number			Class		ç				Technology	λG	ļ
2N3251A		N/R	2	Transistor	Transistor, 'cw Power, PNP	ANA			Not Applicable	icable	
	Tes	Test Tes	Test Test Test	Test	Test	Number Date Number	Test	Test	Failure Test		General
	Se	rce Dat	e Ive	Source Date Type Resistance	Capacitance	Pul es Code Dev	Code Devices Rasult	Voltage Pin Combination	Criteria Remarks		Remarks
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	3655 N/R	102		≏
2N3253		N/R	m		Transistor, Low Power, NPN	Ndx			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12363 N/R	102	184	13
2N3253		MOT	z		Transistor, Low Power, NPN	Ndz			Not Applicable	icable	
	007		1287 SS	1500 Ohms	100E-12 F	300 N/R	10 FAILED	29710 REV. BIAS E TO B	122	0	10
2N329		RAY	M	Transistor	Transistor, Low Power, PNP	dNo			Not Applicable	icable	
	029	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	14000 B(+) E(-)	102	189	13
2N335		1EX	z	Trans	isto", Low Power, NPN	Ndr			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	22140 E(+) B(-) 21681 E(+) B(-)	102 102	189 189	51
2N336		TEX	z	Transi	istor, Low Power, NPN	Ndi			Not Applicable	cable	
	029	N/R	N/N	1500 Ohms	100E-12 F	1 N/R	1 FAILED	22079 E(+) B(-)	102	189	13
2N336A		ETC	z	Transi	istor, Low Power, NPN	N.			Not Applicable	cable	
	020	N/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	17201 E(+) B(-)	102	189	13
2N3375		N/R	z	Transistor	, Microwave/R	stor, Microwave/RF, Field Effect			Not Applicable	cable	
	232	<b>X</b> X	N/R N/R		Ohm: 100E-12 F	1 N/R	1 FAILED	25313 N/R	102	184	2

Part	(6,140)	Part E	ESO Clace	Part	c				yoologdoot	2	
2N3375			2		, Microwave/R	Transistor, Microwave/RF, Field Effect			Not Applicable	cable	1
	Test	Test	t Test	Test Test	Test	Number Date	Test	Test	Failure Te	Test Ge	General
	Sour 400	ce Date 1287	e Iype 7 SS	Source Date Type Resistance 400 1287 SS 1500 Ohns	Capacitance 100E-12 F	Pulses Code	Devices Result V	Voltage Pin Combination 40000 REV. BIAS E TO B	Criteria Re	Remarks Re	Remarks 10
2N338		TRC	M	Transistor	Transistor Low Power, PNP	<u>a</u>			Not Applicable	cable	
	029	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	6488 E(+) B(-)	102	188	13
1										:	
2N3421		I N	~	Transistor	Transistor, Low Power, NPN	NdN			Not Applicable	cable	
	392	1186	1186 SS	1500 Ohms	100E-12 F	1 N/R	5 PASSED	2750 C & E TO BASE (+ -)	19	252	13
10,2kg		Š	٣	1040,00001	reno d	202			oldeni lene	0 4 0	
125CN2		ž	n	io is is in	II drististor, LOW TOWER, NEW	2				נשמו ב	
	436	1186	SS S	1500 OFms	100E-12 F	18 N/R	1 PASSED	4000 N/R	5	252	٣
2N343		TEX	m	Transistor	Transistor, Low Power, NPN	NGN			Not Applicable	cable	
	020	N/R		N/R 1500 C1ms	100E-12 F	1 N/R	1 FAILED	6427 E(+) B(·)	102	189	13
2N3439		<b>N</b> /R	m	Transistor,	Transistor, Low Power, NPN	NDN			Not Applicable	cable	
	030	N/R	χ χ	1500 Chms	100E-12 F	1 N/R	1 FAILED	10000 N/R	103	252	13
	232	N/8	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12308 N/R	102	184	13
2N3439		MOT	z	Trans stor	Transistor, Low Power, NPN	NDN			Not Applicable	cable	
	700	1287	1287 SS	1500 Jhms	100E-12 F	171 N/R	10 FAILED	17100 PEV. BIAS E TO B	122	0	10

Part				•				100400	;	
2N3439	(P. 1807)	MOT N		Transistor, Low Power, NPN	Ndx			Not Applicable	cable	ł
	Test Source 436	Test Test Test Test Source Date Type Resist 436 1186 SS 1500	t Test Resistance 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Pulses Code Devices 18 N/R	Test Result PASSED	Voltage Pin Combination 4000 N/R 4000 N/R	Failure Test  Criteria Remarks 5 252 5 252		General Remarks 3
2N3440		RCA	isuct	tor, Low Power, NPN	NdN			Not Applicable	cable	
	050	N/R N/R	ohms	100E-12 F	1 N/R	1 FAILED	30959 E(+) B(-)	102	189	13
2N3440		MOT		Transistor, Low Power, NPN	NdN			Not Applicable	cable	
	007	1287 SS	1500 Ohms	100E-12 F	390 N/R	10 FAILED	38740 REV. BIAS E TO B	122	0	10
2N3440		N/R 3		Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	232	N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12308 N/R	102	184	13
2N3444		MOT		Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	007	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 REV. BIAS E TO B	122	0	10
2N3467		MOT		Transistor, Low Power, PNP	a. Xa			Not Applicable	cable	
	007	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 REV. BIAS E TO B	122	0	10
2N3468		RAY		Transistor, Low Power,	PNP			Not Applicable	cable	
	050	N/R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	19178 B(+) E(-)	102	188	13
2N3486A		N/R 3		Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	232	N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	7189 4/R	102	184	13

Part			ESD		,						
2N3498		E X	3	Transistor	, Low Power, NPN	NPN			Technology Not Applicable	able	ı
	Test Source 232	t Test	t Test E Type N/R	Test Test Test Test Source Date Type Resistance 232 N/R N/R N/R Ohms	Test Capacitance 100E-12 F	Number Date Number Pulses Code Devices 1 N/R	·n! —	Test Test Result Voltage Pin Combination FAILED 9752 N/R	Failure Test <u>Criteria Rema</u> 102	7ks 184	General <u>Remarks</u> 13
2N3499	700	MOT 1287	x 2 SS 7		Transistor, Low Power 1500 Ohms 100E-12 F	NPN 165 N/R	10 FAILED	16500 REV. BIAS E TO B	Not Applicable	able 0	10
2N3500	232	N/R N/R	N/R		Transistor, Low Power, NPN N/R Ohms 100E-12 F	NPN 1 N/R	1 FAILED	9752 N/R	Not Applicable	able 184	13
2N3501	232	N/R N/R	3 N/R	Transistor, N/R Ohms	Transistor, Low Power, N/R Ohms 100E-12 F	NPN 1 N/R	1 FAILED	9752 N/R	Not Applicable 102 184	able 184	13
2N3501	700	MOT 0188	z SS 8	Transistor, 1500 Ohms	Transistor, Low Power, NPN 1500 Ohms 100E-12 F	upn 173 N/R	10 PASSED	43000 REV. BIAS E TO B	Not Applicable	able 0	10
	736	1186	S SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED 5 PASSED 5 PASSED	4000 N/R 4000 N/R 4000 N/R	יטיטיט	252 252 252	ммм
2N3503	020	N/R N/R	z z		Transistor, Low Power, 1 1500 Ohms 100E-12 F	PNP 1 N/R	1 FAILED	16547 8(+) E(-)	Not Applicable	able 188	13
2N3507	232	N/R N/R	R N/R N/R	Transistor N/R Ohms	, Low Power, NPN 100E-12 F	4PN 1 N/R	1 FAILED	18753 N/R	Not Applicable	able 184	13

Part	(Cont'd)	Part ESD Mfr Cla	ESD Class	Part <u>Description</u>	c				Technology	Š	
2N3507	:		Z		Transistor, Low Power, NPN	NPX			Not Applicable	icable	
	Test	9	Test Test Test	Test	Test	Number Date Number Test	mber Test	Test	Failure T	Test Ger	General
	00,7	1287	SS S		100E-12 F	400 N/R	10 PASSED	N/R 10 PASSED 43000 REV. BIAS E TO B	Criteria Remarks Remarks 122 0 10	emarks Red	marks 10
2N3553		N/R	z	Transistor,	Transistor, Microwave/RF, Bipolar	F, Bipolar			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	16516 N/R	102	184	13
2N3553		<b>#</b> 01	z	Transistor,	Transistor, Microwave/RF, Bipolar	F, Bipolar			Not Applicable	icable	
	007	1287	SS 2	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 REV. BIAS E TO B	122	0	10
2N3570		N/R	2	Transistor,	Transistor, Low Power, NPN	NGN			Not Applicable	icable	
	048	X/X	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	380 N/R	15	252	23
2N3584		N/R	z	Transistor,	Iransistor, High Power, NPN	NGN			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	34200 N/R	102	184	13
2N3585		MOT	æ	Transistor,	Transistor, High Power, NPN	NPN			Not Applicable	i cable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	53877 E(+) B(-)	102	188	13
2N3631		¥/R	-	Transistor,	Field Effect	Transistor, Field Effect, MOS, N-Channel	-j		Not Applicable	icable	
	028	R/R	SS	1500 Ohms	117E-12 f	30 N/R	5 FAILED	100 N/R	29	252	13
2N3635		N/R	٣	Transistor,	Transistor, Low Power, PNP	dNo			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	11000 N/R	103	252	13

Part	(5,001,0)	Part ESD	ESD	Part	c				Technology	2	
2N3635			~		Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	Test	Test	: Test	Test Test		Number		Test	Failure Te		General
	Sour	8)	Type	Resi		Pulses	Result	Voltage Pin Combination	Criteria Remarks		Remarks
	232	N/R	Z/Z	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12363 N/R	102	184	13
2N3635		MOT	-		Transistor, Low Power, PNP	PNP			Not Applicable	cable	
	405	0787	SS 2	1500 Ohms	100E-12 F	5 N/R	5 FAILED	1100 N/R	89	278	13
	700	0188	s ss	1500 Ohms	100E-12 F	321 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
	436	1186 SS	SS S	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	\$	252	M
2N3636		MOT	z		Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	29595 B(+) E(-)	102	189	13
2N3637		N/R	M	Transistor	Transistor, Low Power,	dNd			Not Applicable	cable	
	232	X/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12363 N/R	102	184	51
2N3637		<b>₹</b> 01	М		Transistor, Low Power, PNP	dNd			Not Applicable	;able	
	739	1186 SS	SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED 1 PASSED 1 PASSED 5 PASSED 5 PASSED	4000 N/R 4000 N/R 4000 N/R 4000 N/R 4000 N/R	N N N N N	252 252 252 252 252 252	ммммм
2N3677		х Я	8	Transistor	Transistor, Low Power, PNP	PNP			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6158 B(+) E(-)	102	188	13

Part			ESD	Part					Spoloudoel	2	
2N3700		FSC	N N	Transistor,	Transistor, Low Power, NPN	NAN			Not Applicable	cable	
	Test Source 029	ୁ ଅ	Test Test Test Date Type Resis N/R N/R 1500	Test Resistance 1500 Ohms	Test Test  Resistance Capacitance 1500 Ohms 100E-12 F	Number Date Pulses Code 1 N/R	umber Test   <u>evices Result Norther</u>	Number Test  Devices Result Voltage Pin Combination 1 FAILED 16661 E(+) B( \( \cdot \)	Failure Test General Criteria Remarks Remarks 102 188 13	est Ge marks Re 188	General Remarks 13
2N3700		MOT	м		Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	007	1287 SS	SS	1500 Ohms	100E-12 F	102 N/R	10 FAILED	10200 REV. BIAS E TO B	122	0	10
2N3715		N/R	z	Transisto	Transistor, High Power, NPN	NPN ,			Not Applicable	cable	
	232	N/R	<b>₹</b>	N/R Ohms	100E-12 F	1 N/R	1 FAILED	75917 N/R	102	184	13
2N3715		₩01	2	Transisto	Transistor, High Power, NPN	NPN ,			Not Applicable	cable	
	007	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	122	0	10
2N3716		N/R	Z	Transisto	Transistor, High Power, NPN	N N N			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	75917 N/R	102	184	13
2N3716		₩01	2		Transistor, High Power, NPN	NAN '			Not Applicable	cable	
	007	1287 SS	, SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	122	0	10
2N3724		MOT	m	Transisto	Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	007	1287 SS	SS .	1500 Ohms	100E-12 F	102 N/R	10 FAILED	10200 REV. BIAS E TO B	122	0	10
2N3735		N/R	ĸ	Transisto	Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	9999 N/R	102	184	13

Part Number (	(Cont'd)	Part ESD Mfr Cla	SS	Part Description	c					Technology	>	
2N3735				Transistor	Transistor, Low Power, NPN	NDN				Not Applicable	icable	
	Test	t Test 1	Test Test	Test	Test	Number Date Number	Test	Test		Failure Test		General
	Sour	Source Date	VPe	Type Resistance	Capacitance	611		Voltage Pin Combination	nation	Criteria Remarks		Remarks
	007	1287 \$	S	1500 Ohms	100E-12 F	350 N/R	10 FAILED	34990 REV. BIAS	E TO B	122	0	9
2N3737		N/R	ы	[ransistor	Transistor, Low Power, NPN	NdN				Not Applicable	icable	
	232	N/N	Z/R	N/R N/R N/R Ohms	100E-12 F	1 N/R	1 FAILED	8451 N/R		102	184	13
2N3737		MOT	2	fransistor,	Transistor, Low Power, NPN	NPN				Not Applicable	icable	
	007	1287 SS		1500 Ohms	100E-12 F	320 N/R	10 FAILED	31790 REV. BIAS E TO	E TO 8	122	0	10
2N3739		N/R	2	ransistor,	Transistor, High Power, NPN	NAN				Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	27363 N/R		102	184	13
2N3739		MOT	<b>≻</b>	ransistor,	Transistor, High Power, NPN	NPN				Not Applicable	cable	
	007	1287 SS		1500 Ohms	100E-12 F	390 N/R	10 FAILED	39000 REV. BIAS E TO	E 10 B	122	0	10
2N3741		N/R	z	ransistor,	Transistor, High Power, PNP	dNd				Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	28191 N/R		102	184	13
2N3741		¥01	z	ransistor,	Transistor, High Power, PNP	dNd				Not Applicable	cable	
	007	0188 S	ss 1	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO	E 10 B	123	0	10
	436	1186 S	SS 1	1500 Ohms	100E-12 F	18 N/R	2 PASSED	4000 N/R		īv	252	m

Part	(Cont.d)	Part ESD	ESD	Part Description						Technology	}	
2N3741			z	Transistor,	Transistor, High Power, PNP	dNd				Not Applicable	icable	
	Test Sourc 436	ଥ	Test Test Test  Date Type Resistant  1186 SS 1500	Test Resistance 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Test Pulses Code Devices Resu 18 N/R 5 PASSI 5 PASSI	비유유	Voltage Pin Combination 4000 N/R 4000 N/R		Criteria Remarks 5 252 5 252		General Remarks 3
2N3741		SOL	ĸ	Transistor,	Transistor, High Power, PNP	dNd				Not Applicable	icable	
	736	1186 SS	SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R		ιń	252	m
2N3743		MOT	Z	Transistor,	Transistor, Low Power, PNP	dNd				Not Applicable	icable	
	700	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV.	43000 REV. BIAS E TO B	123	0	10
	436	1186 SS	SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R		\$	252	٣
2N375		<b>M</b> 0T	z	Transistor,	Transistor, High Power, NPN	NPN				Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	28201 B(+) C(-)	(-)	102	189	13
2N3763		N/R	M	Transistor,	Transistor, Low Power, PNP	dNd				Not Applicable	icable	
	232	N/R	R/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	9999 N/R		102	184	13
2N3763		VAR	m		Transistor, Low Power, PNP	dNd				Not Applicable	icable	
	705	0887 SS	SS	1500 Ohms	100E-12 F	5 N/R	2 FAILED	10000 N/R		89	252	13
2N3765		¥/R	ĸ	Transistor,	Transistor, Low Power, PNP	dNd				Not Applicable	icable	
	232	N/R	N/N	N/R Ohms	100E-12 F	1 N/R	1 FAILED	9999 N/R		102	184	5

Part		Part ESD Mfr Clas	ESD Class	Part Descr	Part Description	ا ۔	ı				Technology	<b>&gt;</b>	
2N3767		MOT	2	Tr ans	sistor,	Transistor, High Power, NPN	NPN ,				Not Applicable	icable	1
	Test Sourc	Test e Date	Test Test Test Date Type Resi	Test Resis	Test Resistance	Test Number Capacitance Pulses	Number Date Number Test Pulses Code Devices Resul	4	Test Voltage Pin C	ombination	Failure Test General Critería Remarks Remarks	Test Ger Remarks Rer	General Remarks
	700	400 0188	s ss	1500	1500 Ohms		400 N/R	10 PASSED	43000 REV.	43000 REV. BIAS E TO B	123	0	10
2N3772		N/R	2	Trans	istor,	Transistor, High Power, NPN	NPN				Not Applicable	cable	
	232	N/R	N/R N/R	N/R Ohms		100E-12 F	1 N/R	1 FAILED	76645 N/R		102	184	13
2N3791	- <del>-</del>	N/R	z	Trans	istor,	Transistor, High Power, PNP	dNd				Not Applicable	cable	
	232	N/R	N/R	N/R	Ohms	100E-12 F	1 N/R	1 FAILED	76500 N/R		102	184	13
2N3791	-	MOT	z	Trans	istor,	Transistor, High Power, PNP	PNP				Not Applicable	cable	
	700	0188	SS	1500 Ohms		100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO	BIAS E TO B	123	0	10
2N3792	_	MOT	z	Trans	istor,	Transistor, High Power, PNP	PNP				Not Applicable	cable	
	700	1287 SS	SS	1500 Ohms		100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO	BIAS E TO B	122	0	10
	436	1186 SS	SS	1500 Ohms		100E-12 F	18 N/R	3 PASSED	4000 N/R		50	252	m
2N3799	-	N/R	m	Trans	istor,	Transistor, Low Power, PNP	dNd				Not Applicable	cable	
	030	N/R	N/R	1500 Ohms		100E-12 F	1 N/R	1 FAILED	7000 N/R		103	252	13
2N3810	-	<b>X</b> /R	m	Trans	istor,	Multiple, D	Transistor, Multiple, Differ. Amplifier	ور			Not Applicable	cable	
	232	N/R	N/R	N/R N/R Ohms		100E-12 F	1 N/R	1 FAILED	5048 N/R		102	184	13

Part Number (C	(Cont.td)	Part ESD	ESD	Part Description	ç				Technology	2	
L			2	Transistor	, Multiple, D	Transistor, Multiple, Differ. Amplifier	ier		Not Applicable	cable	ŀ
	Source 400	Test Ce Date 0188	Test Test Test Date Type Resis 0188 SS 1500	Test Test Test Test Source Date Type Resistance 400 0188 SS 1500 Ohms	Test Number Capacitance Pulses 100E-12 F 64	Date Code N/R	Test Result FAILED	Voltage Pin Combination 6350 REV. BIAS E TO B	Failure Test <u>Criteria Remarks</u> 123 0	Test Gen Remarks Rem 0	General Remarks 10
2N3811		N/R	М	Transistor	, Multiple, D	Transistor, Multiple, Differ. Amplifier	ier		Not Applicable	cable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6000 N/R	103	252	13
2N3811		MOT	M	Iransistor	Transistor, Multiple, D	Differ. Amplifier	ier		Not Applicable	cable	
	700	0188	SS	1500 Ohms	100E-12 F	73 N/R	10 FAILED	7720 REV. BIAS E TO B	123	0	10
2N3821		N/R	ĸ	Transistor	, Field Effec	Transistor, Field Effect, MOS, N-Channel	nnel		Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	4879 N/R	102	184	13
2N3821		MOT	8	Transistor	, Field Effec	Transistor, Field Effect, MOS, N-Channel	nnel		Nct Applicable	cable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	29 N/R	10 FAILED	2900 REV. BIAS E TO B	122	0	10
2N3822		N/8	2	Transistor	, Field Effec	Transistor, Field Effect, MOS, N-Channel	nnel		Not Applicable	cable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	7879 N.R	102	184	13
2N3822		MOT	~	Iransistor	, Field Effec	Transistor, field Effect, MOS, N-Channel	nnel		Not Applicable	cable	
	700	1287 SS	SS	1500 Ohms	100E-12 F	35 N/R	10 FAILED	3500 REV. BIAS E TO B	122	0	10
2N3823		N/R	М	Transistor	, Field Effec	or, Field Effect, MOS, N-Channel	nnel		Not Applicable	cable	
	232	N/R	χ χ	N/R Ohms	100E-12 F	1 N/R	1 FAILED	4045 N/R	102	184	13

Part	(Cont.d)	Part ESD Mir Class	Part Description	ç				7.00	,	
2N3823				Transistor, Field Effect, MOS, N-Channel	MOS, N-Channe	_		Not Applicable	cable	1
	Test Sourc 026	Test Test Test Test Source Date Type Resistant Octobron 178 SS 100	st Test <u>De Resistance</u> 100 Ohms	Test <u>Capacitance</u> 200E-12 F	Number Date Number Pulses Code Devices 1 N/R 4	Test Result FAILED	Voltage Pin Combination 208 SOURCE(+) GATE(-)	Failure Test Criteria Remarks 70 285	st General marks Remarks 285 13	rat 13
2N3823		MOT 1	Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channe			Not Applicable	cable	
	007	1287 SS	1500 Ohms	100E-12 F	10 N/R	10 FAILED	1000 REV. BIAS E TO B	122	ပ	10
2N3866		RCAN	N Transistor	Transistor, Microwave/RF, Bipolar	Bipolar			Not Applicable	sable	
	026	0178 SS	100 Ohms	200E-12 F	1 N/R	4 FAILED	3525 E(+) 8(-)	29	285	13
2N3866		MOT 3	3 Transistor	Transistor, Microwave/RF, Bipolar	Bipolar			Not Applicable	able	
	700	1287 SS	1500 Ohms	100E-12 F	105 N/R	10 FAILED	10500 REV. BIAS E TO B	122	0	10
2N3866		N/R 3		Transistor, Microwave/RF, Bipolar	Bipolar			Not Applicable	able	
	232	N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	11659 N/R	102	184	13
2N3866A		N/R 3		Transistor, Microwave/RF, Bipolar	Bipolar			Not Applicable	able	
	232	N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	11659 N/R	102	184	13
2N3868		N/R		Transistor, Low Power, PNP				Not Applicable	able	
	232	N/R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	22533 N/R	102	184	13
2N3868		NOT N		Transistor, Low Power, PNP				Not Applicable	able	
	007	1287 SS	1500 Ohms	100E-12 F	417 N/R	10 FAILED	41700 REV. BIAS E TO B	122	0	10

Part		Part	ESD	Part							
Number		Mfr	Class	Description	Ç				Technology	X	1
2N389		TEX	Z		Transistor, High Power, NPN	NPN			Not Applicable	cable	
	Test	t Te	st Tes	Test Test Test	Test	Number Date Number	mber Test T	Test	Failure Test	st Ge	General
	029 029	rce Date	R IVPe	Source Date Type Resistance 029 N/R N/R 1500 Ohms	Capacitance 100E-12 F	Pulses Code De	vices Result V	Capacitance Pulses Code Devices Result Voltage Pin Combination 100E-12 F 1 N/R 1 FAILED 43161 E(+) B(-)	Criteria Remarks 102 189	marks Re 189	Remarks
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )		9	r		: :	i			4	, , ,	
ZN 28.02		× ×	<b>~</b> 1		Transistor, High Power, NPN	Z.			Not Applicable	cable	
	030	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
2N3906		#OT	-	Transistor	Transistor, High Power, PNP	d. Nd			Not Applicable	cable	
	392		0187 SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	1500 C-B (+ -)	19	150	13
	007		0188 SS	1500 Ohms	100E-12 F	96 N/R	10 FAILED	9600 REV. BIAS E TO B	123	0	10
2N3959		MOT	-	Transistor	Transistor, Low Power, NPN	N			Not Applicable	cable	
	007		1287 SS	1500 Ohms	100E-12 F	11 N/R	10 FAILED	1100 REV. BIAS E TO B	122	0	10
2N3960		N/R	7		Transistor, Low Power, NPN	NGN			Not Applicable	cable	
	232	N/R	R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	3921 N/R	102	184	13
2N3964		N/R	<b>~</b>		Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	030	N/R	R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5500 N/R	103	252	13
2N3971		N/R	-	Transistor	, Field Effec	Transistor, Field Effect, Junction, N-Channel	-Channel		Not Applicable	cable	
	048	N/R	R SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	160 N/R	16	252	23

Part Number		Part ESD Mfr Cla	ESD	Part					To do	è	
2N3997			~		Transistor, High Power, NPN	NON			Not Applicable	icable	
	Test	Test	t Test	Test Test	Test	Number Date Number	Test	Test	Failure T	Test Ge	General
	3 5	Source Date	e K	Resistance	Capacitance	Pulses Code Devices	Result	Voltage Pin Combination	Criteria Remarks	emarks Re	Remarks
	1	2		2	1005-12	¥ .		4350 N/K	201	<u>*</u>	2
2N4029		VAR	m		Transistor, Low Power, PNP	dNo			Not Applicable	icable	
	705	1880	0887 SS	1500 Ohms	100E-12 F	S N/R	2 FAILED	10000 N/R	89	252	13
2N4033		N/R	z	Transistor,	Transistor, Low Power, PNP	dNo			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	16190 B(+) E(-)	102	188	13
2N4033		MOT	z	Transistor,	Transistor, Low Power, PNP	dNo			Not Applicable	icable	
	700	1287	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 REV. BIAS E TO B	122	0	10
2N4036		x %	М	Transistor,	Transistor, High Power,	dNd			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5000 N/R	103	252	13
2N4091		XIS	<del>-</del> -	Transistor,	Field Effect	Transistor, Field Effect, الكن، N-Channel	Je.		Not Applicable	icable	
	392	1186	SS S	1500 Ohms	100E-12 F	1 N/R	5 FAILED	850 D & S TO GATE (+ -)	19	252	13
2N4118A		N/R	-	Transistor,	Field Effect	Transistor, Field Effect, Junction, N-Channel	.Channel		Not Applicable	icable	
	048	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	140 N/R	9	252	23
2N4134		¥/R	-	Transistor,	Transistor, Low Power, NPN	N			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	2000 N/R	103	252	13

Part		Part ESD	ESD	Part	ç				Technology	2	
2N4150			2		Transistor, Low Power, NPN	NPN			Not Applicable	cable	
	Source 232	Test Test Test Source Date Type 232 N/R N/R	it Test <u>e Type</u> : N/R	t Test E Resistance N/R Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Pulses Code <u>Devices</u> 1 N/R	iber Test To rices Result Vo 1 FAILED	Date Number Test Test  Code Devices Result Voltage Pin Combination  N/R 1 FAILED 2951 N/R	Failure Test General Criteria Remarks Remarks 102 184 13	Test Ger Remarks Red 184	General Remarks 13
2N4209		MOT	-		Transistor, Low Power, PNP	dNd			Not Applicable	able	
	007	1287	SS 21	1500 Ohms	100E-12 F	17 N/R	10 FAILED	1700 REV. BIAS E TO B	122	0	10
2N4236		MOT	z	Transistor	Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E · 12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N4251		N/R	7		Transistor, Low Power,	NGN			Not Applicable	cable	
	048	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	460 N/R	15	252	23
2N4261		¥0T	-	Transistor	Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	700		1287 SS	1500 Ohms	100E-12 F	15 N/R	10 FAILED	1500 REV. BIAS E TO B	122	0	10
2N4303		X X	2		', Field Effec	Transistor, Field Effect, Junction, N-Channel	Channel		Not Applicable	cable	
	014	N/R	SS	100 Ohms	100E-12 F	1 N/R	1 FAILED	850 SOURCE DRAIN	102	7.4	13
	015	N/R	SS	1000 Ohms	100E-12 F	1 N/R	1 FAILED	10000 SOURCE DRAIN	102	10	13
	016	N/R	SS	10K Ohms	100E-12 F	1 N/R	1 FAILED	16300 SOURCE DRAIN	102	21	13
2N4351		MOT	<del></del>		°, Field Effec	Transistor, Field Effect, MOS, N-Channel	Jec L		Not Applicable	cable	
	393	0385	SS SS	1500 Ohms	100E-12 F	1 N/R	2 FAILED	150 GATE(+) DRAIN(-)	102	252	13

Part		Part ESD	9	Part					Technology		
2N4392				Transistor,	Field Effec	Transistor, Field Effect, Junction, N-Channel	N-Channel		Not Applicable	able	ŀ
	Test	: Test Test Test	Test		Test	Number Date Number	Test	Test	Failure Test	st General	eral
	Sour	ce Date	Type	Source Date Type Resistance	Capacitance	Pulses Code D		Voltage Pin Combination		Remarks Remarks	arks
	705	) <b>88</b> 0	SS		100E-12 F	5 N/R	6 FAILED	1000 N/R	8	583	<u>5</u>
2N4392		NSC	2	Transistor,	Field Effec	Transistor, Field Effect, Junction, N-Channel	N-Channel		Not Applicable	aple	
	705	0887 SS		1500 Ohms	100E-12 F	S N/R	5 FAILED	2500 N/R	89	282	13
2N4393		SOL	m	Transistor,	Field Effec	Transistor, Field Effect, Junction, N-Channel	N-Channel		Not Applicable	able	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	5691 DRAIN SOURCE	102	188	5
2N4399		N N	2	Transistor,	Transistor, High Power, PNP	dNd			Not Applicable	able	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	88158 N/R	102	184	13
2N4399		MOT	Z	Transistor,	Transistor, High Power, PNP	qud			Not Applicable	able	
	400	0188	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N4405		N/R	M	Transistor,	Transistor, Low Power, PNP	d. Nd			Not Applicable	able	
	232	N/R	χ γ/κ	N/R Ohms	100E-12 F	1 N/R	1 FAILED	12362 N/R	102	184	13
2N4405		₩OT	z	Transistor,	Transistor, Low Power, PNP	d.Nd			Not Applicable	able	
	007	1287 SS		1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 REV. BIAS E TO B	122	0	10
2N4407		MOT	2	Transistor,	Transistor, Low Power, PNP	a. 22			Not Applicable	able	
	705	0887 SS		1500 Ohms	100E-12 F	5 N/R	4 FAILED	2500 N/R	89	278	13

Part		Part ESD	ESD	Part							
Number		#f	Class	Description	-				Technology		
2N4416		1SL	-	Transistor	, Field Effec	Transistor, Field Effect, MOS, N-Channel	Je!		Not Applicable	cable	
	Test	Tes	Test Test Test	t Test	Test	Number Date Number	Test	Test	Failure Test		General
	Sour 249	Source Date Type 249 N/R GN	E TYP	Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code Dev	Devices Result Vo	Result Voltage Pin Combination FAILED 100 G(+) S(-)	Criteria Red	Remarks Re 252	Remarks 13
	253	N/R	<b>3</b> ~	1500 Ohms	100E-12 F	200 N/R	1 PASSED	130 G(+) S(-)	69	252	5
	527	N/N	NS ~	1500 Ohms	100E-12 F	200 N/R	1 FAILED	140 G(+) S(-)	113	252	13
	256	N/N	ß	1500 Ohms	100E-12 F	18 N/R	1 FAILED	150 G(+) S(-)	69	252	13
	259	N/R	NS ~	1500 Ohms	100E-12 F	20 N/R	1 FAILED	165 G(+) S(-)	69	252	13
	292	N/R	₹ ~	1500 Ohms	100E-12 F	10 N/R	1 FAILED	175 G(+) S(-)	69	252	13
	263	N/R	<b>₹</b>	1500 Ohms	100E-12 F	4 N/R	1 FAILED	180 G(+) S(-)	69	252	13
	263	Z/R	NS ~	1500 Ohms	100E-12 F	500 N/R	2 PASSED 1 PASSED	180 <sub>(+)</sub> S(-) 180 G(+) S(-)	69	252 252	13
	263	X/X	S.	1500 Ohms	100E-12 F	1 N/R	1 FAILED	180 G(+) S(-)	69	252	13
	792	N/R	S ~	1500 Ohms	100E-12 F	45 N/R	1 FAILED	185 G(+) S(-)	69	252	13
	797	N/R	NS ~	1500 Ohms	100E-12 F	200 N/R	1 PASSED 1 FAILED	185 G(+) S(-) 185 G(+) S(-)	69	252 252	13
	265	N/R	NS ~	1500 Ohms	100E-12 F	6 N/R	1 FAILED	190 G(+) S(-)	69	252	13
	586	N/R	NS ~	1500 Ohms	100E-12 F	1 N/R	1 FAILED 4 PASSED 1 FAILED	192 G(+) S(-) 192 G(+) S(-) 192 G(+) S(-)	69 69 113	252 252 252	<del>1</del>
	267	X/R	₹ ~	1500 Ohms	100E-12 F	500 N/R	1 FAILED	195 G(+) S(-)	113	252	13
	267	N/R	₹	1500 Ohms.	100E-12 F	1 N/R	1 FAILED	195 G(+) S(-)	69	252	13

Part Number (Cont'd)	(p.		ESD						Technology	27	
2N4416		ısı	-	Transistor,	, Field Effec	Field Effect, MOS, N-Channel			Not Applicable	cable	
	Test	Test		Test Test			Test	St	Failure Te		General
	Sour 267	Source Date 267 N/R	원 건 중 의	Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code Devices Result 500 N/R 2 FAILED	2 FAILED	Voltage Pin Combination 195 G(+) S(-)	Criteria Re	Remarks Re 252	Remarks 13
	267	N/R	S.	1500 Ohms	100E-12 F	15 N/R	1 FAILED	195 G(+) S(-)	69	252	13
	268	N/R	S	1500 Ohms	100E-12 F	1 N/R	2 FAILED	200 G(+) S(-)	69	252	13
	268	χ γ	3	1500 Ohms	100E-12 F	4 N/R	1 FAILED	200 G(+) S(-)	69	252	13
	569	N/R	S	1500 Ohms	100E-12 F	200 N/R	1 FAILED	205 G(+) S(-)	113	252	13
	270	N/N	3	1500 Ohms	100E-12 F	1 N/R	1 FAILED	210 G(+) S(-)	69	252	13
	270	N/N	S	1500 Ohms	100E-12 F	30 N/R	1 FAILED	210 G(+) S(-)	69	252	13
	270	N/R	Š	1500 Ohms	100E-12 F	9 N/R	1 FAILED	210 G(+) S(-)	69	252	13
	270	N/R	Š	1500 Ohms	100E-12 F	1 N/R	1 FAILED	210 G(+) S(-)	69	252	13
	270	N/N	<b>8</b> 5	1500 Ohms	100E-12 F	200 N/R	1 PASSED	210 G(+) S(-)	69	252	13
	270	N/R	S	1500 Ohms	100E-12 F	25 N/R	1 FAILED	210 G(+) S(-)	17	252	13
	272	N/R	<b>N</b>	1500 Ohms	100E-12 F	1 N/R	1 FAILED 5 PASSED	216 G(+) S(-) 216 G(+) S(-)	69	252 252	51
	273	<b>4</b> /R	S	1500 Ohms	100E-12 F	200 N/R	1 PASSED	220 G(+) S(-)	69	252	5.
	574	N/R	<b>8</b>	1500 Ohms	100E-12 F	200 N/R	1 PASSED	225 G(+) S(-)	69	252	13
	274	N/R	3	1500 Ohms	100E-12 F	1 N/R	1 FAILED	225 G(+) S(-)	69	252	13
	274	α/*	Š	1500 Ohms	100E-12 F	200 N/R	2 PASSED 1 FAILED	225 G(+) S(-) 225 G(+) S(-)	69	252	5 5

Part Number (Cont'd)		Part ESD Mfr Cla	ESD Class	Part Description					Technology	>	
2N4410			-	Transistor,	Field Effec	Transistor, Field Effect, MOS, N-Channel			Not Applicable	cable	I
	Test	Test	Test Test Test			Number Date Number	Test	st	Failure Te		General
	23 K2	Se Date		Source Date Type Resistance 275 N/R GN 1500 Ohms	Capacitance 100E-12 F	Pulses Code Devi	Code Devices Result Vol	Voltage Pin Combination 230 G(+) S(-)	Criteria Remarks 69 252		Remarks 13
	276	N/R	S.	1500 Ohms	100E-12 F	1 N/R	2 FAILED	240 G(+) S(-)	69	252	5 ;
	376	2	č	15.00 Ota	100E, 12 E	9/ N 56	1 FAILED	240 6(+) 8(-)	11 09	767	J 1
	917	¥ 2				8/N C7	- TAILED	(-)3(+)3072	<u> </u>	25.2	<u>.</u> 5
	2	¥ <b>2</b>				¥ /¥ 000	- אורנה		2		2
2N4416		TEX	-	Transistor,	Field Effec	Transistor, Field Effect, MOS, N-Channel	_		Not Applicable	cable	
	263	N/R	S	1500 Ohms	100E-12 F	500 N/R	2 FAILED	180 G(+) S(-)	113	252	13
							1 PASSED	180 5(+) 5(-)	ò	767	2
	263	N/N	Š	1500 Ohms	100E-12 F	15 N/R	1 FAILED	180 G(+) S(-)	69	252	13
	263	N/R	S	1500 Ohms	100E-12 F	125 N/R	1 FAILED	180 G(+) S(-)	69	252	13
	264	N/R	S.	1500 Ohms	100E-12 F	200 N/R	1 PASSED	185 G(+) S(-)	69	252	13
	265	N/R	S	1500 Ohms	100E-12 F	2 N/R	1 FAILED	190 G(+) S(-)	69	252	13
	265	N/R	S S	1500 Ohms	100E-12 F	200 N/R	2 FAILED	190 G(+) S(·)	113	252	13
	592	N/R	N	1500 Ohms	100E-12 F	100 N/R	1 FAILED	190 G(+) S(-)	69	252	13
	566	N/R	<b>N</b>	1500 Ohms	100E-12 F	1 N/R	2 PASSED 2 FAILED	192 G(+) S(-) 192 G(+) S(-)	69	252 252	13
	192	N/R	8	1500 Ohms	100E-12 F	9 N/R	1 FAILED	195 G(+) S(-)	69	252	13
	267	N/R	S.	1500 Ohms	100E-12 F	1 N/R	2 FAILED	195 G(+) S(-)	69	252	13

	6.	General	Rешаг	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13	2 13 2 13	2 13	2 13	
<b>\</b>	icable	Test	Remarks	252	252	252	252	252	252	252	252	252	252	252	252	252	252 252	252	252	
Technology	Not Applicable	Failure 1	Criteria R	69	69	69	69	69	17	69	69	69	69	69	69	69	113	69	69	
		t t	Voltage Pin Combination	195 G(+) S(-)	200 G(+) S(-)	210 G(+) S(-)	215 G(+) S(-)	216 G(+) S(-)	225 G(+) S(-)	225 G(+) S(-)	225 G(+) S(-)	225 G(+) S(-) 225 G(+) S(-)	230 G(+) S(-)	230 G(+) S(-)						
	annel	Number Test Test	Result	2 PASSED	1 FAILED	1 PASSED	1 FAILED	4 PASSED	1 FAILED	1 FAILED	1 FAILED	1 FAILED 1 PASSED	1 FAILED	1 FAILED						
	t, MOS, N-Ch	Number Date Number	Pulses Code	X/X	3 N/R	200 N/R	1 N/R	3 N/R	90 N/R	15 N/R	9 N/R	200 N/R	1 N/R	2 N/R	20 N/R	4 N/R	200 N/R	2 N/R	200 N/R	
	Transistor, Field Effect, MOS, N-Channel	Test	itance	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F									
Part	Transistor,	Test	Resistance	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms									
ESD	-	Test Test Test	Type	NS.	NS.	8	<b>8</b>	S.	NS.	<b>3</b>	<b>8</b>	S <sub>R</sub>	NS.	ß	Š	<b>S</b> 8	N G	<b>%</b>	8	
Part E		Test	Date	N/R	¥ / R	N/R	N/R	N/R	N/R	N/R	X X	N/R	N/R	N/R	N/R	R/R	X /R	N/8	N/R	
9 E	1	Test	Source	267 N/R GN	268	270	270	270	270	270	270	175	272	7.2	274	274	274	275	275	

Part	(P1400)	Part !	ESD	Part	Ş				Technology	2	
2N4416	5 755				Transistor, Field Effect, MOS, N-Channel	MOS, N-Channe			Not Applicable	icable	l
	Test Source	Tes ce Date	t Test e Type	Test Test Test Date Type Resistance	Test Capacitance	Number Date Number Pulses Code Devices		Test Test Result Voltage Pin Combination	Failure Test Criteria Remarks	est Ger emarks Re	General Remarks
	276	N/R	3	1500 Ohms	100E-12 F	25 N/R		240 G(+) S(-)	71	252	13
	276	N/R	N <sub>S</sub>	1500 Ohms	160E-12 F	35 N/R	1 FAILED	240 G(+) S(-)	71	252	13
	276	N/R	3	1500 Ohms	100E-12 F	90 N/R	1 FAILED	240 G(+) S(-)	69	252	13
2N4416		×IS	~		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channe	~		Not Applicable	icable	
	705	088	0887 SS	1500 Ohms	100E-12 F	5 N/R	2 FAILED	3700 N/R	89	281	13
2N4416		NSC	<del></del>	Transistor,	, Field Effect,	Field Effect, MOS, N-Channel			Not Applicable	icable	
	705	0887	SS L	1500 Ohms	100E-12 F	5 N/R	2 FAILED	1400 N/R	89	281	13
2N4416A		N/R	2		Transistor, field Effect, MOS, N-Channel	MOS, N-Channe			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	3259 N/R	102	184	13
2N4416A		MOT	-	Transistor	Transistor, field Effect, MOS, N-Channel	MOS, N-Channe			Not Applicable	icable	
	007	128	1287 SS	1500 Ohms	100E-12 F	9 N/R	10 FAILED	900 REV. BIAS E TO B	122	0	0
2N463		KSC	z		Transistor, High Power, NPN	Ndi			Not Applicable	icable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	68798 B(+) E(-)	102	189	13
2N4856		<b>₹</b> /R	3		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channe	_		Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	8395 N/R	102	184	13

Part Number ( 2N4856	(Cont'd)	Part ESD Mfr Class MOT 1		Description Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			<u>Technology</u> Not Applicable	cable	j
	Test	ଥ	st Test be Resistance	Test Capacitance	Date	Test Result	c	Failure Te Criteria Re	Test General Remarks Remarks	eral arks
	736	0588	1500 Ohms	100E-12 F	N/R	2 FAILED		2	252	м
	700	1287 SS	1500 Ohms	100E-12 F	11 N/R	10 FAILED	1100 REV. BIAS E TO B	122	0	10
2N4856		sor s	2 Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	436	ss 8890	1500 Ohms	100E-12 F	15 N/R	4 FAILED	2500 + GATE TO - SOURCE	'n	252	м
2N4856		SIX	l Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	436	1186 SS	1500 Ohms	100E-12 F	9 N/R	1 FAILED	1000 GATE TO SOURCE	52	252	٣
2N4857		SIX	Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	705	0887 ss	1500 Ohms	100E-12 F	5 N/R	8 FAILED	1500 N/R	89	277	13
2N4857		ISL	1 Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	736	0788 SS	1500 Ohms	100E-12 F	12 N/R	5 FAILED	1500 - GATE TO + SOURCE	2	252	2
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	2	252	ю
2N4857		MOT	1 Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	736	1186 SS	1500 Ohms	100E-12 F	5 N/R	5 FAILED	600 SOURCE TO GATE	2	252	٣
	436	1186 SS	1500 Ohms	100E-12 F	12 N/R	5 FAILED	1500 SOURCE TO GATE	5	252	м
2N4858		N/R	3 Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	030	N/R N/R	R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	6000 N/R	103	252	13

Part	(7.100)	Part ESD	ESD	Part	Ç				Technology	2	
•	6	K/R	3		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	l
	rest	t Test	st Test	t Test A Decistance	Test	Number Date Number Dulses Code Devises		Test Voltage Din Combination	Failure Test Criteria Demarks		General
	232	232 N/R N/R	Z Z Z		100E - 12 F		FAILED	FAILED 8395 N/R	102		13
2N4858		MOT	M		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	007		1287 SS	1500 Ohms	100E-12 F	41 N/R 10	10 FAILED	4100 REV. BIAS E TO B	122	0	10
2N4858		181	-		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED 5 PASSED	4000 N/R 4000 N/R	יט יט	252	мм
	736		1186 SS	1500 Ohms	100E-12 F	3 N/R	3 FAILED 5 FAILED	400 SOURCE TO GATE 400 SOURCE TO GATE	5 5	252 252	юм
2N4858		SIX	-		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	436	1186	ss ss	1500 Ohms	100E-12 F	7 N/R	2 FAILED	800 SOURCE TO GATE	5	252	2
	436	1186	ss ss	1500 Ohms	100E-12 F	12 N/R	2 FAILED	1600 SOURCE TO GATE	S	252	٣
	736		1186 SS	1500 Ohms	100E-12 F	11 N/R	2 FAILED	1400 SOURCE TO GATE	ις	252	m
2N4872		N/R	8		Transistor, Low Power, PNP				Not Applicable	cable	
	048	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	1200 N/R	15	252	23
2N491		GF.	z		Transistor, Unijunction				Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	83934 E(+) B(·)	102	188	13

Part			ESD	Part					1001	ì	
2N4931		<b>E S</b>	3		Transistor, Lc+ Power, PNP	PNP			Not Applicable	icable	1
	Test	Tes	Test Test Test	Test	Test	Number	mber Test	Test	Failure Test	est Ge	General
	33 (S	Source Date Type 232 N/R N/R	S S S	Resistance N/R Ohms	Capacitance 100E-12 F	Pulses Code Devices	rices Result	Result Voltage Pin Combination FAILED 12387 N/R	Criteria Remarks 102 184	emarks Re 184	Remarks 13
284948		¥0	z		Transistor, Unijunction	_			Not Applicable	ícable	
	026	028	0281 SS	100 Ohms	200E-12 F	1 N/R	4 FAILED	742 B(+) E(-)	54	285	13
	400	128;	1287 ss	1500 Ohms	100E-12 F	179 N/R	10 FAILED	17900 REV. BIAS E TO B	122	0	5
5N4949		MOT	2		Transistor, Unijunction	-			Not Applicable	icable	
	007	1287	ss 2	1500 Ohms	100E-12 F	175 N/R	10 FAILED	17500 REV. BIAS E TO B	122	0	10
2N4957		N/R	•-	Transistor	Transistor, Low Power, PNP	PNP			Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	1563 N/R	102	184	13
2N4957		MOT	-		Transistor, Low Power, PNP	PNP			Not Applicable	icable	
	700	128	1287 SS	1500 Ohms	1500 Ohms 100E-12 F	12 N/R	10 FAILED	1200 REV. BIAS E TO B	122	0	10
2N4959		MOT	-	Transistor	Transistor, Low Power, PNP	dNd			Not Applicable	icable	
	392	118	1186 SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	650 C & E TO BASE (+ -)	19	252	13
2N495A		CSI		Transistor	Transistor, Low Power, PNP	dNd			Not Applicable	icable	
	059	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	790 B(+) E(-)	102	189	13

Part			ESO	Part					24701	Technology		
Number 24608		FIX	Class	—,	Description Transistor, Low Power, PNP	dNd			Not Ap	Not Applicable	ple	ı
	•		•			Today Is soon a sound	Tect	Test	Failure Test	Test		General
	lest	lest	st les	lest lest	rest	Bules Code D	Result	Voltage Pin Combination	Criteria Remarks	a Remi	rks Rem	Remarks
	Source 029	N/R	N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	26297 B(+) E(-)		2	189	13
									:	:	:	
2N5019		XIX	m		Iransistor, Field Effect, Junction, P-Channel	t, Junction,	P-Channel		Not A	Not Applicable	able able	
	707		0887 SS	1500 Ohms 100E-12 F	100E-12 F	5 N/R	5 FAILED	10000 N/R	ð	88	252	12
2N5036		N/R	M	3 Transistor	Transistor, Low Power, NPN	NAN			Not A	Not Applicable	able	
	030	N/R	2 N/R	N/R 1500 Ohms 100E-12 F	100E-12 F	1 N/R	1 FAILED	15000 N/R	10	103	252	13
2N5038		N/R	z		Transistor, High Power, NPN	NAN			Not A	Not Applicable	able	
	232	N/N	R N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	20283 N/R	10	102	184	13
2N5038		MOT	Z	N Transistor	Transistor, High Power, NPN	, NPN			Not A	Not Applicable	aple	
	007		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO	89	123	0	10
2N5038		RCA	r1	3 Transistor	Transistor, High Power, NPN	NPN ,			Not 4	Not Applicable	able	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	2 PASSED	4000 N/R		2	252	w ,
							5 PASSED	4000 N/R		<b>ν</b> ι	225	n M
							5 PASSED			· 10	252	M
							2 PASSED	4000		2	252	M
										2	252	~
							3 PASSED	•		<b>5</b>	252	m 1
							2 PASSED	4000 N/R		5	252	~

Part Mulber	(Cont.d)	Part ESD Mfr Clase	rt secription	ç				100	;	
1				Transistor, High Power, NPN	Ndi			Not Applicable	cable	[
	Test	Test Te	Test Test	Test	Number Date Number	Test	Test	Failure Te		General
	30ur 436	Source Date Type 436 1186 SS	De Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code Dev 18 N/R	Code Devices Result VA	Voltage Pin Combination 4000 N/R	Criteria Remarks 5 252		Remarks 3
						2 PASSED	4000 N/R	5	252	M
2N5109		N/R	3 Transistor	Transistor, Microwave/RF, Bipolar	Bipolar			Not Applicable	cable	
	232	N/R N/R	R N/R Ohms	100E-12 F	1 N/R	1 FAILED	9246 N/R	102	184	13
2N5109		HOT	N Transister	Transistcr, Microwave/RF, Bipolar	Bipolar			Not Applicable	cable	
	700	1287 SS	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40000 REV. BIAS E TO B	122	0	0
2N5114		N/R	3 Transistor	Transistor, Field Effect, Junction, P-Charnel	Junction, P-(	Charine (		Not Applicable	cable	
	030	N/R N/R	R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	7000 N/R	103	252	13
2N5114		ISI	2 Transistor	Transistor, Field Effect, Junction, P-Channel	Junction, P-(	Channel		Not Applicable	cable	
	9£7	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	8
	736	1186 SS	1500 Ohms	100E-12 F	17 N/R	5 FAILED	3500 GATE TO SOURCE	ī	252	٤
	736	1186 SS	1500 Ohms	100E-12 F	15 N/R	1 FAILED	2500 GATE TO SOURCE	ın	252	к
2N5116		ISI	1 Transistor	Transistor, Field Effect, Junction, P-Channel	Junction, P-(	Channel		Not Applicable	cable	
	9£7	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	ĸ	252	ю
	436	1186 SS	1500 Ohms	100E-12 F	15 N/R	1 FAILED	2500 SOURCE TO GATE	2	252	ĸ

Part Number (Cont'd) 2N5116	वि	Part ESD Mfr Clas	ESD Class	Part Description Transistor,	Part Description Transistor, Field Effect, Junction, P-Channel	unction, P-Ch	annel		Technology Not Applicable	gy icable	1
		! !	•						-		
	Test	Tesi	Test Test Test	Test		Date	•	Test	Failure Test		General
	136 136 136	436 1186 SS	SS SS	1500 Ohms	100E-12 F 12	N/8	1 FAILED		5		2 ~
	436	118	1186 SS	1500 Ohms	100E-12 F	14 N/R	5 FAILED	2000 GATE TO SOURCE	2	252	m
	436	1186	SS 9	1500 Ohms	100E-12 F	9 N/R	1 FAILED	1000 GATE TO SOURCE	72	252	~
	436	118	1186 SS	1500 Ohms	100E-12 F	3 N/R	1 FAILED	400 GATE TO SOURCE	2	252	m
2N5154		χ ''	z	Transistor,	Transistor, Low Power, NPN				Not Applicable	icable	
	048	N/N	SS	100 Ohms	218E-12 F	1 N/R	1 PASSED	3000 N/R	15	252	23
285157		α 2	2	Transistor	Transistor Wigh Dower NDN				Not Applicable	icable	
	232	N/R	N/N		100E-12 F	1 N/R	1 FAILED	96560 N/R	102	184	13
2N5196		SIX	-	Transistor,	Transistor, Field Effect, Junction, N-Channel	unction, N-Ch	annel		Not Applicable	icable	
	705		SS	1500 Ohms	100E-12 F	5 N/R	5 FAILED	700 N/R	89	281	13
2N5241		N/R	8	Transistor,	Iransistor, High Power, NPN				Not Applicable	icable	
	232	N/R	N/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	7439 N/R	102	184	13
2N5245		N/R	2	Transistor,	Transistor, Field Effect, Junction, N-Channel	unction, N-Ch	annet		Not Applicable	icable	
	014	N/R	SS	100 Ohms	100E-12 F	1 N/R	1 FAILED	600 GATE DRAIN	102	89	13
	015	N/R	SS	1000 Ohms	100E-12 F	1 N/R	1 FAILED	3200 GATE DRAIN	102	27	13

Part	(Cont 'd)	Part ESD Mfr Clas	ESD Class	Part Description	c				Technology	>	
2N5245			2	Transistor,	, Field Effec	Transistor, Field Effect, Junction, N-Channel	Channel		Not Applicable	cable	ĺ
	Test	Test Test Test	Test		Test	Number Date Number		Test	Failure Test	st Gen	General
	016	Source Date 19pe 016 N/R SS	S E	Kesistance 10K Ohms	100E-12 F	1 N/R 1	1 FAILED	FAILED 5500 GATE DRAIN	102	Kemarks Kemarks 65 13	13
2N526		99	æ	Transistor,	Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	17903 B(+) E(-)	102	189	13
2N526		<b>#</b> 01	z	Transistor,	Transistor, Low Power, PNP	dNa			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	30560 E(+) E(-)	102	189	5
2N5302		N/R	2	Transistor,	Transistor, High Power, NPN	NDN			Not Applicable	cable	
	232	X / R	χ Χ	N/R Ohms	100E-12 F	1 N/R	1 FAILED	88158 N/R	102	184	13
2N5302		MOT	*	Transistor,	Transistor, High Power, NPN	NPN			Not Applicable	cable	
	700	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	5
2N5303		MOT	z	Transistor,	Transistor, High Power, NPN	N			Not Applicable	cable	
	700	0188	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N5344		MOT	z	Transistor,	Transistor, High Power, PNP	PNP			Not Applicable	cable	
	400	1287 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	122	0	10
2NS415		N/R	z	Transistor,	Transistor, Low Power, PNP	dNa			Not Applicable	cable	
	232	N/R	R/R	N/R Ohms	100E-12 F	1 N/R	1 FAILED	22529 N/R	102	184	5

Technology	Not Applicable	Failure Test General <u>Criteria Remarks Remarks</u> 103 252 13	Not Applicable	122 0 10	Not Applicable	102 252 13	Not Applicable	122 0 10	Not Applicable	102 184 13	Not Applicable	5 252 3	Not Applicable	5 252 3
		Test Voltage Pin Combination 10000 N/R		40000 REV, BIAS E TO B		2500 N/R		40000 REV. BIAS E TO B		28942 N/R		4000 N/R		4000 N/R 4000 N/R
		Test Result FAILED		10 FAILED 400	N-Channel	5 PASSED 25		10 FAILED 400		1 FAILED 289		5 PASSED 40		5 PASSED 40 5 PASSED 40
	dNd	Number Date Number Pulses Code Devices 1 N/R	dNd	400 N/R	t, Junction,	30 N/R	N ON	400 N/R	NPN	1 N/R	NPN	18 N/R	NPN	18 N/R
Part Description	Transistor, Low Power, PNP	Test <u>stance Capacitance</u> Ohms 100E-12 F	Transistor, Low Power, PNP	1500 Ohms 100E-12 F	Transistor, Field Effect, Junction, N-Channel	1500 Ohms 117E-12 F	Transistor, Low Power, NPN	1500 Ohms 100E-12 F	Transistor, High Power, NPN	N/R Ohms 100E-12 F	Transistor, High Power, NPN	1500 Ohms 100E-12 F	Transistor, High Power,	1500 Ohms 100E-12 F
Part ESD Part ESD Metr Class De	m	Test Ce Date	MOT N TE	1287 SS	N/R 2 Tr	N/R SS	MOT N TOM	1287 SS	N/R N Tr	N/R N/R	UNI 3 Tr	1186 SS	PPI 3 Tr	1186 SS
Part Number	2N5416	Test <u>Source</u> 030	2N5416	700	2N5524	028	2N5582	007	2N5663	232	2N5664	9£7	2N5664	927

Part		Part ESD Mfr Class	Part SS Descript	ion .				Technology	>	
2N2665				Transistor, High Power, NPN	NON			Not Applicable	icable	1
	Test	t Test Te	Test Test Test	Test	Date	Test		failure Test		General
	Sour Sour	rce Date Type	Source Date Type Resistance	Capacitance	Pulses Code De	Devices Result 1	Voltage Pin Combination	Criteria Remarks		Remarks
				1			4000 N/R		252	n m
2N5665		I NO	3 Transisto	Transistor, High Power, NPN	N			Not Applicable	icable	
	736	1186 SS	s 1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	\$	252	8
2N5665		SOL	3 Transisto	Transistor, High Power, NPN	NDN			Not Applicable	icable	
	927	1186 SS	s 1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	М
2N5666		VAR	3 Transistor	Transistor, High Power, NPN	NGN			Not Applicable	icable	
	705	0887 SS	s 1500 Ohms	100E-13 F	5 N/R	4 FAILED	10000 N/R	89	280	13
2N5672		PP I	3 Transistor, High	', High ower, NPN	NGN			Not Applicable	icable	
	436	1186 SS	s 1500 Ohms	100E-1' F	18 N/R	3 PASSED	4000 N/R	ις	252	ю
2N5682		N/R	3 Transistor	Transistor, High 'ower, PNP	PNP			Not Applicable	icable	
	030	N/R N/R	/R 1500 Ohms	100E-1 F	1 N/R	1 FAILED	10000 N/R	103	252	13
2N5685		MOT	N Transistor	Transistor, High Power, NPN	NON			Not Applicable	icable	
	007	0188 SS	5 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	1
2N5686		MOT	N Transistor	Transistor, High Power, NPN	NdN			Not Applicable	icable	
	007	0188 SS	5 1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10

Part	Раг	Part ESD	Part							
Number 245 77 5	Mfr	Clas	Description	J. 1	did			Technology	X	1
CN2 (42	X/X	<b>z</b>	Iransistor	Iransistor, Migh Power, PNP	d.			Not Applicable	cable	
	Test	Test Test Test	Test	Test	Number Date Number		Test	Failure Test		ral
	Source D	Date Type N/R N/R	Source Date Type Resistance 232 N/R N/R N/R Ohms	Capacitance Pulses 100E-12 F	Pulses Code Devices	ces Result V	Result Voltage Pin Combination FAILED 88158 N/R	Criteria Remarks 102 184	marks Remarks 184 13	ts 13
5725NC	¥O¥	2	Transistor	Or High Power BND	<u> </u>			Not Applicable		
	2	9		, , , , , , , , , , , , , , ,	· ·				, ,	•
	0 007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	571	)	2
2N576A	ETC	7		Transistor, Low Power, PNP	dNo			Not Applicable	cable	
	029 N	N/R N/R	N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	3840 E(+) B(-)	102	189	13
2N5794	RAY	٧	Transist	, Multiple, D	or, Multiple, Differ. Amplifier			Not Applicable	cable	
	436 1	1186 SS	1500 Ohms	100E-12 F	17 N/R	5 FAILED	3500 EMITTER TO BASE	5	252	ъ
2N5794	MOT	2	Transistor	, Multiple, D	Transistor, Multiple, Differ. Amplifier			Not Applicable	cable	
	0 927	SS 8870	1500 Ohms	100E-12 F	16 N/R	5 FAILED	3000 COLLECTOR TO BASE	ſ	252	m
	436 1	1186 SS	1500 Ohms	100E-12 F	17 N/R	5 FAILED	3500 EMITTER TO BASE	\$	252	٣
2N5796	MOT	m	Transist	., Multiple, D	or, Multiple, Differ. Amplifier			Not Applicable	cable	
	436 1	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	2	252	m
2N5874	MOT	<del>2</del>		Transistor, High Power, NPN	Ndv			Not Applicable	cable	
	007	0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10

Part Number		Part ESD Mfr Cla	ESD Class	Part Description	c				Technology	à	
2NS877	i		2		Transistor, High Power, NPN	NON			Not Applicable	icable	1
	Source 400	Test Ce Date 0188	Test Test Test  Date Type Resi  0188 SS 1500	Resistance 1500 Ohms	Test Capacitance 100E-12 F	Number Date Pulses Code 400 N/R	wices Result Vices Result Vices	Number Test Test  Devices Result Voltage Pin Combination 10 PASSED 43000 REV. BIAS F TO B	Failure Test General Criteria Remarks Remarks	est Ge emarks Re	General Remarks
2N598		19	z	Transistor	Transistor, Low Power, PNP				Not Applicable	icable	<b>!</b>
	020	X/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	19658 B(+) E(-)	102	189	13
2N6040		MOT	2	Transistor,	Transistor, Multiple, Darlington	arlington			Not Applicable	icable	
	007	1287	2 SS	1500 Ohms	100E-12 F	297 N/R	10 FAILED	29700 REV. BIAS E TO B	122	0	10
2N6052		N/R	M	Transistor,	Transistor, Multiple, Darlington	arlington			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
2N6055		¥01	z	Transistor,	Transistor, Multiple, Darlington	arlington			Not Applicable	icable	
	007	128	1287 SS	1500 Ohms	100E-12 F	263 N/R	10 FAILED	26300 REV. BIAS E TO B	122	0	10
2N6059		N/R	M	Transistor,	Transistor, Multiple, Darlington	arlington			Not Applicable	icable	
	030	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 PASSED	15300 N/R	103	252	13
2N6129		MOT	Z	Transistor,	Transistor, High Power, NPN	NPN			Not Applicable	icable	
	007	128	1287 SS	1500 Ohms	100E-12 F	383 N/R	10 FAILED	38300 REV. BIAS E TO B	122	0	9
2N618		¥01	z	Transistor,	Transistor, High Power, NPN	NAN			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	26070 B(+) E(-)	102	189	13

Part		Part E	ESD	Part	·				1001	Tochool		
2N6191			3	Transistor,	Transistor, High Power, PNP	dNd			Not	Not Applicable	a)	
	Test	Test	Test Test Test	Test	Test	Number Date Number	ber Test T	Test	Failur	Failure Test		<b>=</b> :
	38 8	392 1286 SS	SS	1500 Ohms	100E-12 F	Tuises Look Devices	2 FAILED	FAILED 9000 C-E TO BASE (+ -)		19 25 19 25		Z Z
2N6212		N/R	2	Transistor	Transistor, High Power, PNP	a. Na			Not	Not Applicable	ου	
	090	N/R	S	1500 Ohms	100E-12 F	5 N/R	6 PASSED	4000 N/R	-	102 25	252 1	13
2N6277		M07	Z	Transistor	Transistor, High Power, NPN	NGN			Not	Not Applicable	به	
	007	0188 SS	SS	1500 Ohns	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B		123	0 1	10
2N6284		MOT	z	Transistor	Transistor, Multiple, Darlington	arlington			Not	Not Applicable	به	
	700	0188 SS	SS	1500 Ohms 100E-12	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B		123	0	10
2N6287		MOT	z	Transistor	Transistor, Multiple, Darlington	arlington			Not	Not Applicable	به	
	007	0188 SS	SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B		123	1 0	9
2N6298		MOT	z	Transistor	Transistor, Multiple, Darlington	arlington			Not	Not Applicable	به	
	007	1287 SS	SS	1500 Ohms	100E-12 F	347 N/R	10 FAILED	34700 REV. BIAS E TO B		122	0	10
2N6299		MOT	2	Transistor	Transistor, Multiple, Darlington	arlington			Not	Not Applicable	φ	
	007	1287 SS	SS	1500 Ohms	100E-12 F	344 N/R	10 FAILED	34400 REV. BIAS E TO B		122	0	10
2N6301		<b>M</b> 01	z	Transistor	Transistor, Multiple, Darlington	arlington			Not	Not Applicable	e.	
	007	1287 SS	SS	1500 Ohms	100E-12 F	224 N/R	10 FAILED	22400 REV. BIAS E TO B		122	0	10

Part		Part ESD Mfr Cla	ESD	Part Description	ç				Technology	>	
2N6379			2	•	Transistor, High Power, PNP	dNd '	<b>!</b> !		Not Applicable	cable	ì
	Test Source	91	Date Type Resion 1500	Resistance 1500 Ohms	Test Number Capacitance Pulses 100E-12 F 400	Number Date Number Test Pulses Code Devices Resu 400 N/R 10 PASSI	mber Test 1 Vices Result V	Date Number Test Test  Code Devices Result Voltage Pin Combination  N/R 10 PASSED 43000 REV. BIAS E TO B	Failure Test Criteria Remai	ر ا د	General Remarks 10
2N6385		MOT	7		Transistor, Multiple, Darlington	)arlington			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E-12 F	31 N/R	10 FAILED	3017 REV. BIAS E TO B	123	0	10
2N6437		MOT	z		Transistor, High Power, PNP	dNd .			Not Applicable	cable	
	007		0188 SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N6438		MOT	z		Transistor, High Power, PNP	dNd .			Not Applicable	cable	
	007		1287 ss	1500 Ohms	100E-12 F	400 N/R	10 FAILED	40003 REV. BIAS E TO B	122	0	10
2N6547		MOT	Z	Transistor	Transistor, High Power, NPN	Ndx			Not Applicable	cable	
	700	0188	SS SS	1500 Ohms	100E-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N656		TEX	٣		Transistor, Low Power, PNP	dNP			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	12953 E(+) B(-)	102	189	13
2N657		TEX	Z	Transistor	Transistor, Low Power, PNP	dNd			Not Applicable	cable	
	020	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	23103 E(+) B(-)	102	189	13
2N657A		<u> </u>	Z	Transistor	Transistor, Low Power, PNP	PNP			Not Applicable	cable	
	050	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	26290 E(+) B(-)	102	189	13

Part		Part ESD	ESO Part					-		
2N6603				Transistor, Microwave/RF, Bipolar	if, Bipolar			Not Applicable	cable	ĺ
	Source	a) i			4. 4.1	Test Result		Failure Test Criteria Remarks	st General narks Remarks	ral
	004	S /871	55 1500 Ohms	s 100E-12 F	48 N/R	10 FAILED	4760 REV. BIAS E TO B	122	D	9
2N6604		MOT	3 Transist	Transistor, Microwave/RF, Bipolar	F, Bipolar			Not Applicable	able	
	700	0188 SS	ss 1500 Ohms	s 100E-12 F	65 N/R	10 FAILED	6500 REV. BIAS E TO B	123	0	10
2N6649		MOT	N Transist	Transistor, Multiple, Darlington	arlington			Not Applicable	able	
	007	1287 SS	s 1500 Ohms	s 100E-12 F	377 N/R	10 FAILED	37700 REV. BIAS E TO B	122	0	9
2N665C		MOT	N Transist	Transistor, Multiple, Darlington	arlington			Not Applicable	able	
	700	0188 SS	:S 1500 Ohms	s 100£-12 F	400 N/R	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N6660		IRC	1 Transist	or, Field Effec	Transistor, Field Effect, MOS, N-Channel	100		Not Applicable	abl e	
	393	0483 SS	S 1500 Ohms	s 100E-12 F	1 N/R	1 FAILED	300 N/R	102	252	13
2N6661		SIX	1 Transist	or, Field Effec	Transistor, Field Effect, MOS, N-Channel	76		Not Applicable	able	
	396	1081 SS	.s 1500 Ohms	s 150E-12 F	1 N/R	2 FAILED	1500 G-S AND G-D (+ -)	102	252	13
2N6756		IRC	1 Transist	or, Field Effec	Transistor, Field Effect, MOS, N-Channel	₹.		Not Applicable	able	
	392	1186 SS	s 1500 Ohms	s 100E-12 F	1 N/R	6 FAILED	450 D TO G & S (+ -)	19	252	7:
2N6758		IRC	1 Transist	or, Field Effec	Transistor, Field Effect, MOS, N-Channel	<del>-</del>		Not Applicable	able	
	392	1186 SS	s 1500 Ohms	s 100E-12 F	1 N/R	5 FAILED	450 D TO G & S (+ -)	19	252	

Part Number			ESD Class	Part Description	-				Technology	à	
2N6762		,   5	-	Transistor,	Field Effect	Transistor, Field Effect, MOS, N-Channel	le (		Not Applicable	icable	ļ
	Source 400	Test ce <u>Date</u> 1287	Test Test Test Date Type Resis 1287 SS 1500	Test Test Test Test Source Date Type Resistance 400 1287 SS 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Pulses Code Devices 15 N/R 10	Test Result FAILED	Test Voltage Pin Combination 1500 REV. BIAS E TO B	Failure Test Criteria Remarks 122 261		General Remarks 10
2N6764		IRC	-	Transistor,	, Field Effect	Transistor, Field Effect, MOS, N-Charnel	ē.		Not Applicable	icable	
	396	1181 SS	SS	1500 Ohms	150E-12 F	1 N/R	1 FAILED	100 G-S AND G-D (+ -)	102	252	13
	736	1186 SS	SS	1500 Ohms	100E-12 F	9 N/R	1 FAILED	1000 SOURCE TO GATE	ĸ	252	M
	436	1186 SS	SS	1500 Ohms	100E-12 F	17 N/R	1 FAILED	3500 SOURCE TO GATE	5	252	m
	736	1186	1186 SS	1500 Ohms	100E-12 F	18 N/R	1 PASSED 1 PASSED	4000 N/R 4000 N/R	יט יט	252	мм
	436	1186	1186 SS	1500 Ohms	100E-12 F	16 N/R	5 FAILED	3000 SOURCE TO GATE	ĸ	252	٣
2N6764		SIX	7	Transistor,	Field Effect	Transistor, Field Effect, MOS, N-Channel	e I		Not Applicable	icable	
	436	1186 SS	SS	1500 Ohms	100E-12 F	15 N/R	5 FAILED	2500 SOURCE TO GATE	ĸ	252	m
2N6764		RCA	-	Transistor,	Field Effect	Transistor, Field Effect, MOS, N-Channel	-e		Not Applicable	icable	
	436	1186 SS	SS	1500 Ohms	100E-12 F	4 N/R	1 FAILED	500 GATE TO DRAIN	5	252	m
	436	1186 SS	SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED 1 PASSED	4000 N/R 4000 N/R	in in	252 252	мм
2N6764		SIL	-	Transistor,	, Field Effect	Transistor, Field Effect, MOS, N-Channel	ē.		Not Applicable	icable	
	436		1186 SS	1500 Ohms	100E-12 F	12 N/R	5 FAILED	1500 SOURCE TO GATE	5	252	m

Part		Part ESD Mfr Cla	ESD	Part Description	c				Technology	>	
2N6764-2			~		Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	cable	
	Source 436	t Tes	st Tes Se IVP Se SS	Test Test Test Test Source Date Iype Resistance 436 1186 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Numbe Devic	Test Result PASSED	Test Voltage Pin Combination 4000 N/R	Failure Test <u>Criteria Remarks</u> 5 252	Genera Remark	- 81 E
2N6766	ž	2	1 33	Transistor		40S, N-Channel		ates of andies one	Not Applicable		
2N6768	ş,	<u>~</u>	28 SS		1500 Ohms 100E-12 F 4 N/R Transistor, Field Effect, MOS, N-Channel	4 N/R 40S, N-Channel	1 FAILED	SOURCE TO GATE	5 252 Not Applicable		<b>^</b>
	396		1081 SS	1500 Ohms	150E-12 F	1 N/R	3 FAILED	500 G-S AND G-D (+ -)	102	252 1	13
2N6782		RCA	-	Transistor	1 Transistor, Field Effect, MOS, N-Channel	40S, N-Channel			Not Applicable	cable	
	736		1186 SS	1500 Ohms 100E-12 F	100E-12 F	9 N/R	1 FAILED	1000 GATE TO SOURCE	۲	252	m
2N6796		IRC	M		Transistor, Field Effect, MOS, N-Channel	40S, N-Channel			Not Applicable	cable	
	436		1186 SS	1500 Ohms	100E-12 F	18 N/R	2 PASSED	4000 N/R	5	252	m
2N6796		RCA	~		Transistor, Field Effect, MOS, N-Channel	40S, N-Channel			Not Applicable	cabl e	
	436		1186 SS	1500 Ohms	100E-12 F	16 N/R	1 FAILED	3000 GATE TO SOURCE	\$	252	M
2N685		ä	Z	Thyristor, SCR	SCR				Not Applicable	cable	
	050	N/R	M/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	26756 B(+) E(-)	102	189 1	13
2N687		GE	Z	Thyristor,	SCR				Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	88223 B(+) E(-)	102	189	13

Part			8 -	Part					Technology	,	1
2N697			3	Transistor	Transistor, Low Power, NPN	NDN			Not Applicable	cable	
	Tect		Test fest Test	Test	Test	Number Date Number	Test	Test	Failure Test		Genera(
	100		2	Peristance	Capacitance	Pulses Code Devices Result	Result	Voltage Pin Combination	Criteria Remarks	marks Rem	Remarks
	020	N/8		N/R N/R 1500 Ohms	100E-12 F		1 FAILED		102	88	5
2N699		FSC	M		Transistor, Low Power, NPN	NGN			Not Applicable	cable	
	029	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	14674 E(+) B(-)	102	189	13
									•		
2N706		TEX	7		Transistor, Low Power, NPN	NON			Not Applicable	caple	
	620	N/R	X/8	1500 Ohms	100E-12 F	1 N/R	1 FAILED	2439 E(+) B(-)	102	189	13
2N706		M01	M		Transistor, Low Power, NPN	NAN			Not Applicable	cable	
	007		1287 SS	1500 Ohms	100E-12 F	42 N/R 1	10 FAILED	4200 REV. BIAS E TO B	122	0	10
2N708		FSC	ĸ	Transistor	Transistor, Low Power, NPN	NAN			Not Applicable	cable	
	059	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	4925 E(+) B(-)	102	189	13
2N718		MOT	z		Transistor, Low Power, NPN	NDN			Not Applicable	icable	
	700		0188 SS	1500 Ohms	100E-12 F	315 N/R 1	10 PASSED	43000 REV. BIAS E TO B	123	0	10
2N718A		MOT	3		Transistor, Low Power, NPN	NGN			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	14863 E(+) B(-)	102	188	13
									•	; ;	
2N736		MOT	M		Transistor, Low Power, NPN	NPN			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	9191 E(+) B(-)	102	189	51

Part		Part ESD Mfr Cla	ESD	Part					-	į	
2N760			3	Transistor	Transistor, Low Power, NPN	NPN			Not Applicable	icable	1
	Test	Test Test Source Date	t Test Type	Test Test Type Resistance	Test Capacitance	Number Date Number Pulses Code Devices	Test Result	Test Voltage Pin Combination	Failure Test General Criteria Remarks Remarks	est Ge emarks Re	General
	620	N/R	X/R	1500 Ohms	100E-12 F	1 N/R	FAILED		102	189	1 E
2N834		RAY	~	Transistor,	Transistor, Low Power, NPN	NON			Not Applicable	icable	
	050	N/R	X X	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3434 E(+) B(-)	102	188	13
2N859		TEC	m	Transistor,	Transistor, Low Power, PNP	dNd			Not Applicable	ic 3ble	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	11476 B(+) E(-)	102	189	13
2N869A		FSC	7	Transistor,	Transistor, Low Power, PNP	dNd			Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	3823 E(+) B(-)	102	881	13
2N886A		N/R	2	Thyristor, SCR	SCR				Not Applicable	icable	
	870	N/R	SS	100 Ohms	218E-12 F	1 N/R	1 FAILED	680 N/R	17	252	23
2N916		RAY	M	Transistor,	Transistor, Low Power, NPN	Nd7			Not Applicable	icable	
	029	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	6502 E(+) B(-)	102	188	13
2N918		TEC	~	Transistor,	Transistor, Microwave/RF, Bipolar	i, Bipolar			Not Applicable	icable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	2085 E(+) B(-)	102	188	13
2N918		MOT	-	Transistor,	Transistor, Microwave/RF, Bipolar	i, Bipolar			Not Applic ble	ic ble	
	700	1287 SS	SS	1500 Ohms	100E-12 F	19 N/R	10 FAILED	1900 REV. BIAS E TO B	122	0	10

Part	(5001.6)	Part ESD Mfr Class	Part Description	ć				Technology	2	
2N918	75 155			Transistor, Microwave/RF, Bipolar	F, Bipolar			Not Applicable	cable	ı
	Test	Test Te	Test Test Test	Test	Number Date Number Test	<u> </u>	Test	Failure Test		erat
	705 705	Source Date Type 402 0787 SS	ype Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code Dev	Devices Result Vo	Voltage Pin Combination 1600 N/R	Criteria Remarks 68 278	278 Remarks	13 13
2N927		TEC	3 Transistor	Transistor, Low Power, PNP	dNc			Not Applicable	cable	
	050	N/R N/R	/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	6412 B(+) E(-)	102	189	13
2N930		FSC	3 Transistor,	Transistor, Low Power, NPN	N d 7			Not Applicable	cable	
	050	N/R N/R	/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	6156 E(+) B(-)	102	189	13
2N930		MOT	3 Transistor, Low Power, NPN	, Low Power, A	<b>2</b> 4			Not Applicable	cable	
	700	1287 SS	s 1500 Ohms	100E-12 F	83 N/R	10 FAILED	8300 REV. BIAS E TO B	122	0	10
2N930A		SOL	3 Transistor,	Transistor, Low Power, NPN	24.7			Not Applicable	cable	
	050	N/R N/R	/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	4221 E(+) B(-)	102	189	13
2N956		MOT	3 Transistor,	Transistor, Low Power, NPN	Nd			Not Applicable	cable	
	050	N/R N/R	/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	8806 E(+) B(-)	102	189	13
30Fa045		IRC	1 Diode, Rectifier, Power Schottky	tifier, Power	Schottky			Not Applicable	cable	
	705	0887 ss	s 1500 Ohms	100E-12 F	5 N/R	6 FAILED	10 N/R	89	252	13
3133-02	3133-02-237-001	ALP	1 Diode, Micr	crowave, Pin				Not Applicable	cable	
	392	0886 SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	150 A-C (+ -)	19	252	13

Part Number (Cont'd) 3133-02-237-001	<u>6</u> -	Part Mfr ALP	ESD Ctass	Part Description Diode, Microwave,	owave, Pin				Technology Not Applicabl	cable	l
	Test Source 392	Tes Ogg	Test Test Date Iype 0886 SS	Test Test Test Test Source Date Iype Resistance 392 0886 SS 1500 Ohms	Test Nu <u>Capacitance</u> <u>Pu</u> 100E-12 F	Number Date Number Pulses Code Devices 1 N/R 5	Test Result FAILED	Test Voltage Pin Combination 150 C-A THEN A-C	Failure lest <u>Criteria Remarks</u> 19 156		General Remarks 13
34058472-001		MOT	~		Transistor, Multiple, Matched Pair	ched Pair			Not Appricable	cable	
	436		0588 SS	1500 Ohms	100E-12 F	18 8728	3 PASSED	4000 N/R	5	169	m
3N128		RCA		Transistor,	Field Effect,	Transistor, Field Effect, MOS, N-Channel			Not Applicable	cable	
	348	N/R	S	1500 Ohms	100E-12 F	50 N/R	1 FAILED	50 GATE(+) SOURCE(-)	72	252	13
	348	X/R	S.	1500 Ohms	100E-12 F	200 N/R	1 PASSED	50 GATE(+) SOURCE(-)	117	252	13
	349	N/R	₹.	1500 Ohms	100E-12 F	200 N/R	1 PASSED	60 GATE(+) SOURCE(-)	117	252	13
	350	N/R	8	1500 Ohms	100E-12 F	200 N/R	1 PASSED	75 GATE(+) SOURCE(-)	117	252	13
	351	N/R	N <sub>S</sub>	1500 Ohms	100E-12 F	1 N/R	S FAILED 15 PASSED	92 GATE(+) SOURCE(-) 92 GATE(+) SOURCE(-)	72 117	252 252	र्घ घ
	352	х Я	8	1500 Ohms	100E-12 F	1 N/R	6 FAILED	95 GATE(+) SOURCE(-)	72	252	13
	352	N/R	8	1500 Ohms	100E-12 F	2 N/R	1 FAILED	95 GATE(+) SOURCE(-)	116	252	13
	352	N/R	S	1500 Ohms	100E-12 F	15 N/R	3 FAILED 1 FAILED	95 GATE(+) SOURCE(-) 95 GATE(+) SOURCE(-)	118 72	252 252	ដ ដ
	352	N/R	<b>8</b>	1500 Ohms	100E-12 F	20 N/R	1 FAILED	95 GATE(+) SOURCE(-)	118	252	13
	352	N/R	S	1500 Ohms	100E-12 F	75 N/R	2 FAILED	95 GATE(+) SOURCE(-)	118	252	13
	352	N/R	Š	1500 Ohms	100E-12 F	100 N/R	1 FAILED	95 GATE(+) SOURCE(-)	118	252	13

4		ESD	Part					700	į	
לרמון ח	RCA I	1	Transistor,	, Field Effec	Transistor, Field Effect, MOS, N-Channel	nel		Not Applicable	licable	
Test		Test Test Test	Test	Test	Number Date Number	Test	Test	Failure 1	Test (	General
Source	ce Date	Date Type	Resistance	Capacitance	Pulses Code De	Devices Result	Voltage Pin Combination	Criteria	Remarks	Remarks
352	   <del> </del> 	8	1500 Ohms	100E-12 F	Ä,					13
352	R/R	3	1500 Ohms	100E - 12 F	200 N/R	4 PASSED	95 GATE(+) SOURCE(-)	117	252	13
353	N/R	ß	1500 Ohms	100E-12 F	1 N/R	7 FAILED	100 GATE(+) SOURCE(-)	72	252	13
353	N/R	Š	1500 Ohms	100E-12 F	2 N/R	1 FAILED	100 GATE(+) SOURCE(-)	72	252	13
353	N/R	8	1500 Ohms	100E-12 F	8 N/R	1 FAILED	100 GATE(+) SOURCE(-)	118	252	13
353	N/R	ß	1500 Ohms	100E-12 F	10 N/R	4 FAILED	100 GATE(+) SOURCE(-)	118	252	13
353	N/R	ક	1500 Ohms	100E-12 F	15 N/R	4 FAILED	100 GATE(+) SOURCE(-)	118	252	13
353	N/R	S	1500 Ohms	100E-12 F	30 N/R	1 FAILED 1 FAILED	100 GATE(+) SOURCE(-) 100 GATE(+) SOURCE(-)	72 111	252	£1 £1
353	N/R	S	1500 Ohms	100E-12 F	100 N/R	1 FAILED	100 GATE(+) SOURCE(-)	118	252	13
353	N/R	ß	1500 Ohms	100E-12 F	175 N/R	2 FAILED	100 GATE(+) SOURCE(-)	72	252	13
354	N/R	8	1500 Ohms	100E-12 F	1 N/R	2 FAILED 9 FAILED 9 PASSED	103 GATE(+) SOURCE(-) 103 GATE(+) SOURCE(-) 103 GATE(+) SOURCE(-)	116 72 117	252 252 252	13 13
355	N/R	NS	1500 Ohms	100E-12 F	1 N/R	6 FAILED	105 GATE(+) SOURCE(-)	72	252	13
355	N/R	S.	1500 Ohms	100E-12 F	5 N/R	1 FAILED	105 GATE(+) SOURCE(-)	118	252	13
355	N/R	B	1500 Ohms	100E-12 F	6 N/R	3 FAILED	105 GATE(+) SOURCE(-)	118	252	13
355	N/R	N <sub>O</sub>	1500 Ohms	100E-12 F	7 N/R	1 FAILED	105 GATE(+) SOURCE(-)	118	252	13
355	N/R	<b>8</b>	1500 Ohms	100E-12 F	8 N/R	2 FAILED	105 GATE(+) SOURCE(-)	118	252	51

İ	General Remarks 13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	ភ ភ
9X icable	Test Governments Reserved	252	252	252	252	252	252	252 252	252	252	252	252	252	252	252	252
Techrology Not Applicable	Failure T Criteria R 72	118	1,8	118	72	116	117	72 116	116	118	118	118	118	118	117	72 116
	Voltage Pin Combination 105 GATE(+) SOURCE(-)	105 GATE(+) SOURGE(-)	110 GATE(+) SOURCE(-) 110 GATE(+) SOURCE(-)	110 GATE(+) SOURCE(-) 115 GATE(+) SOURCE(-)												
	Test Result FAILED	2 FAILED	1 FAILED	1 FAILED	1 *AILED	1 FAILED	1 PASSED	11 FAILED 1 FAILED	1 FAILED	1 FAILED	3 FAILED	1 FAILED	1 FAILED	1 FAILED	1 PASSED	12 FAILED 1 FAILED
ion or, Field Effect, MOS, N-Channel	Number Date Number Pulses Code Devices 9 N/R	20 N/R	30 N/R	50 N/R	75 N/R	100 N/R	200 N/R	1 N/R	2 N/R	4 N/R	6 N/R	15 N/R	20 N/R	50 N/R	2C 4/R	1 N/E
Field Effect,	Test <u>Capacitance</u> 100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F
Part Description Transistor,	Test <u>Resistance</u> 1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1530 Ohms
ESD Class	Test Type GN	8	8	<b>8</b>	GN	N G N	NS.	N9	S	N S	Š	S.	N.	N <sub>S</sub>	S S	3
Part ESD Mfr Cla RCA	Test Date N/R	N/R	α 2	N/R	N/R	N/8	N/R	N/R	N/N	N/R	N/R	N/R	χ χ	N/N	N/R	N/R
Cont'd) M	Test Test 1 Source Date 1 355 N/R C	355	355	355	355	355	355	356	356	356	356	356	356	356	356	357
Part Number (1 3N128																

Part	(Cont'd)	Part ESD Mfr Cla	ESD	Part Description	c				Technology	<b>,</b>	
3N128	3N128		-	•	Transistor, Field Effect, MOS, N-Channel	MOS, N-Chann	le (		Not Applicable	icable	
	Test	Test	: Test	Test Test	Test Num	Number Date Number	ber Test To	Test Valtade Din Combination	Failure Test Criteria Remarks	est Ge emarks Re	General
	357	N/R	를 용 기 용	1500 Ohms	100E-12 F	3 N/R	1 FAILED	100E-12 F 3 N/R 1 FAILED 115 GATE(+) SOURCE(-)	22	222	13
	357	N/N	S	1500 Ohms	100E-12 F	4 N/R	3 FAILED	115 GATE(+) SOURCE(-)	118	252	13
	357	N/R	ß	1500 Ohms	100E-12 F	5 N/R	2 FAILED	115 GATE(+) SOURCE(-)	118	252	13
	357	N/R	S.	1530 Ohms	100E-12 F	10 N/R	1 FAILED	115 GATE(+) SOURCE(-)	5.	252	13
	357	N/R	8	1500 Ohms	100E-12 F	25 N/R	1 FAILED	115 GATE(+) SOURCE(-)	118	252	13
	358	N/R	NS.	1500 Ohms	100E-12 F	1 N/R	1 FAILED	125 GATE(+) SOURCE(-)	72	252	5
	359	N/R	Š	1500 Ohms	100E-12 F	1 N/R	1 FAILED	150 GATE(+) SOURCE(-)	72	252	13
	360	N/R	3	1500 Ohms	100E-12 F	1 N/R	1 FAILED	200 GATE(+) SOURCE(-)	22	252	51
3N169		MOT	-	Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Chann	el		Not Applicable	icable	
	007	1287	SS 2	1500 Ohms	100E-12 F	8 N/R	10 FAILED	800 REV. BIAS E TO B	122	0	10
3N170		ISL	-	Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Chann	اوا		Not Applicable	icable	
	546	N/R	N <sub>S</sub>	1500 Ohms	100E-12 F	200 N/R	1 FAILED	80 G(+) S(-)	63	252	13
	247	N/R	S	1500 Ohms	100E-12 F	5 N/R	1 PASSED	87 G(+) S(-)	92	252	13
	248	N/R	ž	1500 Ohms	100E-12 F	200 N/R	1 PASSED	(-)8 (+)9 06	92	252	13
	248	N/R	S	1500 Ohms	100E-12 F	2 N/R	1 SAILED	(-)8 (+) 9 06	63	252	13
	248	N/R	S	1500 Ohms	100E-12 F	200 N/R	7 PASSED	(-)s (+)9 06	92	252	13

(0)		SSO .	Part						Sector	2	
O TION	[ ] 조	-	Transistor,	Transistor, Field Effect, MOS, N-Channel	t, MOS, N-Ch	anne (			Not Applicable	icable	
Test		Test Test Test	Test	Test	Number Date Number	Number Test	st Test		Failure To	Test 6	General
Sour	Source Date Type	IVPe	Resistance	Capac i tance	Pulses Code	Devices Res	sult Volta	Result Voltage Pin Combination	Criteria R	Remarks R	Remarks
548	R/R	3	1500 Ohms	100E-12 F	X/R		FAILED	06 (+) S(-)	ĸ	252	5
548	X / R	8	1500 Ohms	100E-12 F	200 N/R	1 FAILED		(-)8(+) 06	27	252	13
250	N/R	ß	1500 Ohms	100E-12 F	70 N/R	1 FA	FAILED 10	105 G(+) S(-)	75	252	13
251	R/R	8	1500 Ohms	100E-12 F	1 N/R	1 FAI	FAILED 1'	115 G(+) S(-)	75	252	13
251	N/R	NS.	1500 Ohms	100E-12 F	2 N/R	1 PAS 1 FAI	PASSED 1'FAILED 1'	115 G(+) S(-) 115 G(+) S(-)	76 120	252 252	£1
251	N/N	8	1500 Ohms	100E-12 F	S N/R	1 FAI	FAILED 17	115 G(+) S(-)	120	252	13
251	N/R	<b>X</b>	1500 Ohms	100E-12 F	25 N/R	1 FA	FAILED 1'	115 G(+) S(-)	120	252	5
251	N/R	S.	1500 Ohms	100E-12 F	43 N/R	1 FAILED		115 G(+) S(-)	120	252	13
251	N/R	8	1500 Ohms	100E-12 F	50 N/R	1 FA	FAILED 1.	115 G(+) S(-)	120	252	13
251	N/R	3	1500 ОҺтѕ	100E-12 F	75 N/R	1 FAI	FAILED 1'	115 G(+) S(-)	7.4	252	13
251	N/R	3	1500 Ohms	100E-12 F	125 N/R	1 FA	FAILED 1.	115 G(+) S(-)	120	252	13
251	N/R	3	1500 Ohms	100E-12 F	135 N/R	1 FAI	FAILED 1.	115 G(+) S(-)	120	252	13
251	N/R	NS.	1500 Ohms	100E-12 F	40 N/R	1 FA]	FAILED 1.	115 S(+) G(-)	119	252	13
252	N/R	8	1500 Ohms	100E-12 F	90 N/R	1 FAILED		125 G(+) S(-)	120	252	13
524	N/R	3	1500 Ohms	100E-12 F	1 N/R	2 FAILED		140 G(+) S(-)	120	252	13
524	N/R	35	1500 Ohms	100E-12 F	2 N/R	1 FAILED		140 G(+) S(-)	ፚ	252	13
524	N/R	3	1500 Ohms	100E-12 F	3 N/R	1 FAILED		140 G(+) S(-)	120	252	13

		General	Remarks 13	13	13	13	13	13	13	13	13	13	13	13	13 13	13	13 13	13
37.	icable		Remarks R 252	252	252	252	252	252	252	252	252	252	252	252	252	252	252	252
Technology	Not Applicable		Criteria R	120	75	75	92	120	119	119	120	7.4	119	120	76 75	120	74 120	120
		Test	Voltage Pin Combination 140 G(+) S(-)	140 G(+) S(-)	140 G +) S(-)	140 G(+) S(-)	140 G(+) S(-)	140 S(+) G(-)	140 S(+) G(-)	145 G(+) S(-)	150 G(+) S(-)	150 G(+) S(-)	150 S(+) G(-)	150 G(+) S(-)	152 G(+) S(-) 152 G(+) S(-)	160 G(+) S(-)	165 G(+) S(-) 165 G(+) S(-)	165 G(+) S(-)
	I-Channel	Test	Code Devices Result V	R 1 FAILED	R 1 FAILED	R 1 FAILED	R 2 PASSED	R 1 FAILED	R 1 FAILED	R 1 FAI'ED	R 1 FAILED	'R 1 FAILED	R 1 FAILED	'R 1 FAILED	R 9 PASSED 1 FAILED	'R 1 FAILED	R 1 FAILED 5 FAILED	R 2 FAILED
	t, MOS, N		Pulses Co	5 N/R	6 N/R	8 N/R	200 N/R	1 N/R	2 N/R	19 N/R	45 N/R	21 N/R	1 N/R	200 N/R	1 N/R	3 N/R	1 N/R	2 N/R
	Field Effect, MOS, N-Channel		Capacitance 100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F	100E-12 F
Part Description	Transistor,	Test Test	Resistance 1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Of.ms	1500 Ohms	1500 Ohms	1500 Ohms	1500 Ohms
ESO	-	: Test	8 8 8	S	N	<b>₹</b>	₹5	S.	<b>2</b>	S	<b>2</b>	<b>№</b>	<b>N</b>	S.	<b>X</b>	Š	S	š
Part B	I S L	Test	N/R (	N/R	N/N	N/R	N/N	N/R	× /×	X X	X X	N/N	N/R	N/R	N/R	N/N	N/R	N/R
(Cont'd)		Test	Source 254	527	524	524	254	554	554	255	256	256	256	256	257	258	559	559
	3N170																	

Part	(Cont.d)	Part ESD	ESD	Part	c				Technology	20	
3N170				Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	licable	
	Test	Test	Test Test Test	Test	Test	Date	Test	Test			General
	259	Source Date	원 건 명	1500 Ohms	100E-12 F	5 N/R 1	FAILED	165 G(+) S(-)	120	252	13
	52ò	X/R	G	1500 Ohms	100E-12 F	10 N/R	1 FAILED	165 G(+) S(-)	120	252	13
	259	N/R	S.	1500 Ohms	100E-12 F	35 N/R	1 FAILED	165 G(+) S(-)	119	252	13
	259	N/R	S	1500 Ohms	100E-12 F	19 N/R	1 FAILED	165 G(+) S(-)	119	252	13
	559	N/R	SS.	1500 Ohms	100E-12 F	59 N/R	1 FAILED	165 G(+) S(-)	119	252	13
	263	N/R	S	1530 Ohms	100E-12 F	2 N/R	1 FAILED	170 G(+) S(-)	120	252	13
	261	X/R	ß	1500 Ohms	100E-12 F	1 N/R	6 FAILED	(+)9	119	252	13
								( <del>+</del> )5	120	252	13
							1 PASSED	171 G(+) S(-)	92	252	13
	263	N/R	S.	1500 Ohms	100E-12 F	2 N/R	1 FAILED	180 G(+) S(-)	92	252	13
	265	N/R	<b>S</b>	1500 Ohms	100E-12 F	1 N/R	1 FAILED	190 G(+) S(-)	76	252	13
							9 FAILED	190 G(+) S(-)	119	252	13
							1 FAILED	190 G(+) S(-)	120	252	13
	268	N/R	NS	1500 Ohms	100E-12 F	1 N/R	1 FAILED	200 G(+) S(-)	92	252	13
							2 FAILED	200 G(+) S(-)	119	252	13
3N187		RCA	-	Transistor	Transistor, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	licable	
	393	0683	SS S	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1500 N/R	102	252	13
3N201		MOT	М	Transistor	or, Field Effect, MOS, N-Channel	MOS, N-Channel			Not Applicable	licable	
			,	i 6					•	Ċ	•
	007	128	1287 SS	1500 Ohms	100E-12 F	78 N/R	10 FAILED	7800 REV. BIAS E TO B	122	5	2

Part Number		Part ESD Mfr Class	Part Description	-				Technology	>	
3N204			Transistor,	Field Effect,	Field Effect, MOS, N-Channel			Not Applicable	cable	l
	Source 393	Test Test Test Test Source Date Type Resistance 393 0385 SS 1500 Ohms		Test Nu Capacitance Pu 100E-12 F	Number Date Number Pulses Code Devices 1 N/R 2	Test Result FAILED	Test Voltage Pin Combination 2000 GATE(+) SOURCE(-)	Failure Test <u>Criteria Remarks</u> 102 252		General Remarks 13
26-27		NSC 1	Transistor,	Transistor, Microwave/RF, Bipolar	Bipolar			Not Applicable	cable	
	451	0184 SS	1500 Ohms	100E-12 F	9 N/R	1 FAILED	1800 N/R	102	252	13
479-1464-100		UNI 3	Diode, Smat	Diode, Small Signal, General Purpose	ral Purpose			Not Applicable	cabl e	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	13 PASSED	4000 N/R	S	252	m
4E413-2		MAS 1	Diode, Micr	Diode, Microwave, Schottky Barrier	y Barrier			Not Applicable	cable	
	392	1086 SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	(+ -) Y-C (+ -)	19	272	13
4N22A		TRW 2	Optoelectro	onic Dev., Photocoupler	ocoupler			Unknown		
	392	1086 SS	1500 Ohms	100E-12 F	1 N/R	7 FAILED	3500 A-C, C-B & B-E (+ -)	91	7.	13
72N7		MP1 2	Optoelectro	onic Dev., Photocoupler	ocoupler			Unknown		
	398	0285 GN	1500 Ohms	100E-12 F	S N/R	3 PASSED	2000 SEE REMARKS	112	192	52
67117		TEX 2	Optoelectro	onic Dev., Photocoupler	ocoupler			Unknown		
	436	0588 SS	1500 Ohms	100E-12 F	18 N/R	1 FAILED 1 FAILED	4000 BASE TO COLLECTOR 4000 EMITTER TO BASE	איי	252 252	мм
	436	0588 SS	1500 Ohms	100E-12 F	16 N/R	1 FAILED	3000 BASE TO COLLECTOR	2	252	m

Part Number (Cont'd)	(t 'd)	Part ESD Mfr Class	Part Description	Ç				Technology	≥	
67N7		TEX 2		Optoelectronic Dev., Photocoupler	hotocoupler			Unknown		{
	Source 436	Test Test Test Source Date Type 436 0588 SS	t Test <u>e Resistance</u> 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Pulses Code Devices 18 N/R	Test Result FAILED FAILED	Voltage Pin Combination 4000 EMITTER TO BASE 4000 BASE TO COLLECTOR	Failure Test Criteria Remarks 5 252 5 252		General Remarks 3
	436	0588 SS	1500 Ohms	100E-12 F	15 N/R	1 FAILED	2500 EMITTER TO BASE	10	252	8
	736	0588 SS	1500 Ohms	100E-12 F	18 N/R	1 FAILED 1 FAILED	4000 BASE TO COLLECTOR 4000 EMITTER TO BASE	, ,	252	мм
	736	0588 SS	1500 Ohms	100E-12 F	15 N/R	1 FAILED	2500 BASE TO COLLECTOR	5	252	m
	436	1186 SS	1500 Ohms	100E-12 F	15 N/R	5 FAILED	2500 EMITTER TO BASE	5	252	m
5082-2785		HEW 1	Diode, Mic	Diode, Microwave, Schottky Barrier	tky Barrier:			Not Applicable	cable	
	392	0886 SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED 5 FAILED	300 A-C (+ -) 200 C-A THEN A-C	19	252 248	5 5
5082-4885		3 3		onic Dev., En	Optoelectronic Dev., Emitter, Single LED	9		Unknown		
	386	N/R N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	22340 A(+) C(-) 5770 C(+) A(-)	101	190	ភ ភ
62-92		NSC 2		Transistor, Low Power, PNP	PNP			Not Applicable	cable	
	421	0184 SS	1500 Ohms	100E-12 F	10 N/R	1 PASSED	2000 N/R	102	252	13
63-92		NSC 2	Transistor	Transistor, Low Power, PNP	d N d			Not Applicable	cable	
	421	0184 SS	1500 Ohms	100E-12 F	11 N/R	1 FAILED	2200 N/R	102	252	13

Part Number		Part ESD Mfr Cla	ESD	Part Description	Ŏ,				Technology	>	
72515	-		-	Transisto	Transistor, Microwave/RF	L			Not Applicable	cable	
	Test	Test	Test Test Test	Test	Test	Date	Number Test	Test	Failure Test		General
	410 1181	1181	K 1 8	GN 1500 Ohms	100E-12 F	10 N/R	1 PASSED	1000 N/R	102 252		13
80354	-	MAS	-	Transistor	Transistor, Microwave/RF	le.			Not Applicable	cable	
	410	1181	NS.	1500 Ohms	100E-12 F	20 N/R	1 PASSED	1000 N/R	102	252	13
	411	1181 GN	NS.	1M Ohms	100E-12 F	20 N/R	1 PASSED	1000 N/R	102	252	13
8540045	-	1RC	m	Diode, Rec	Diode, Rectifier, Power Schottky	Schottky			Not Applicable	cable	
	705	0887 ss	SS	1500 Ohms	100E-12 F	5 N/R	3 FAILED	10000 N/R	89	252	13
88000	•	MAS	-	Transistor	Transistor, Field Effect	ų			Not Applicable	cable	
	607	1181 SS	SS	1500 Ohms	100E-12 F	10 N/R	1 FAILED	600 N/R	102	203	13
88001	<b>4.</b>	MAS	-	Transistor	Transistor, Field Effect	<b>ىد</b>			Not Applicable	cable	
	607	1181	SS	1500 Ohms	100E-12 F	10 N/R	1 FAILED	600 N/R	102	202	13
88xxx	-	MAS	•	Transistor	Transistor, Field Effect	L			Not Applicable	cable	
	507	0781	SS	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1200 GATE-SOURCE	27	189	13
	907	0781	SS	1M Ohms	100E-12 F	1 N/R	2 FAILED	1200 GATE-SOURCE	27	201	13
	205	0781	SS	10M Ohms	100E-12 F	1 N/R	1 FAILED	400 GATE-SOURCE	27	200	13
	807	0781	SS	1M Ohms	100E-12 F	1 N/R	1 FAILED	1000 GATE-SOURCE	27	198	18

Part		Part ESD Mfr Class	Part Description	-				Technology		
AM9519A		AMD 2	Transistor,	Transistor, Low Power, PNP	a			Not Applicable	cable	ı
	Test Source 436	Test Test Test Test Source Date Type Resistance 436 1186 SS 1500 Ohms	Resistance 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Pulses Code Devices 15 N/R 1	er Test Tr	Date Number Test Test  Code Devices Result Voltage Pin Combination  N/R 1 FAILED 2500 INPUT TO GND	Failure Test Criteria Remarks 5 252		General Remarks 3
CLA3130-99	,	¥.	Diode, Micr		:	;		Not Applicable	cable	!
DN-50003-00	392	0986 SS SF0 1	1500 Ohms Diode Micr	: 100E-12 F Growave Pin	7 N/N	10 FAILED	400 A-C (+ -)	19 252 Not Applicable	252 252 351	<del>1</del> 3
	392			100E-12 F	1 N/R	10 FAILED	1100 A-C (+ -)	1 61	252	13
EN 110A		MOT 3		Transistor, Microwave/RF				Not Applicable	cable	
	413	1087 SS	1500 Ohms	100E-12 F	15 N/R	5 FAILED	16000 BASE TO EMITTER	83	148	13
	413	1087 SS	1500 Ohms	100E-12 F	5 N/R	5 FAILED 5 FAILED	10000 BASE TO EMITTER 16000 BASE TO EMITTER	23	148	£1 £1
	413	1087 SS	1500 Ohms	100E-12 F	70 N/R	5 PASSED 5 PASSED	16000 BASE TO EMITTER 16000 BASE TO EMITTER	23	148	51
EN114B		MOT	Transistor,	Transistor, Microwave/RF				Not Applicable	cable	
	413	1087 SS	1500 Ohms	100E-12 F	40 N/R	4 PASSED	16000 BASE TO EMITTER	23	148	51
	413	1087 SS	1500 Ohms	100E-12 F	30 N/R	4 PASSED	16000 BASE TO EMITTER	23	148	13
	413	1087 SS	1500 Ohms	100E-12 F	15 N/R	4 PASSED	16000 BASE TO EMITTER	23	148	13
	413	1087 SS	1500 Ohms	100E-12 F	20 N/R	4 PASSED	16000 BASE TO EMITTER	23	148	13

Part		Part ESD	ESD	Part	_				Technology	<b>}</b>	
EN12240			٣	Transistor,	Transistor, Microwave/RF				Not Applicable	cable	İ
	Test Source 413	ce Date	Test Test Test Date Type Resis 1087 SS 1500	Yest Test Test Test Source Date Type Resistance 413 1087 SS 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Pulses Code Devices 2 N/R 3	Test Result FAILED	Voltage Pin Combination 16000 BASE TO EMITTER	Failure To Criteria Re 23	Test Ge Remarks Re 191	General Remarks
	413	108	1087 SS	1500 Ohms	100E-12 F	30 N/R	3 FAILED	16000 BASE TO EMITTER	g	191	13
	413		1087 SS	1500 Ohms	100E-12 F	50 N/R	3 FAILED	16000 BASE TO EMITTER	83	191	51
F0777F		FSC	-	Diode, Smal	l Signal, Ge	Diode, Small Signal, General Purpose			Not Applicable	icable	
	620	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	1017 N/R	102	188	13
FLV104		111	m	Optoelectro	nic Dev., Em	Optoelectronic Dev., Emitter, Single LED	LED		Unknown		
	386	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	17160 A(+) C(-) 4400 C(+) A(-)	101	190	£1 £1
FLV152		111	ю	Optoelectro	nic Dev., Em	Optoelectronic Dev., Emitter, Single LED	LED		Unknown		
	386	#/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	20580 A(+) C(-) 5310 C(+) A(-)	101	190	13 13
GC4117-85		GTL	-	Diode, Microwave	омаче				Not Applicable	icable	
	392		1086 SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	2000 A-C (+ -)	19	252	ā
нсмр-1700		HEU	~	Optoelectro	nic Dev., Em	Optoelectronic Dev., Emitter, Single LED	LED		Unknown		
	403	1860	SS 5860	1500 Ohms	100E-12 F	5 N/R	20 FAILED 20 FAILED	1200 FWD. AND REV. BIAS 100 REV. BIAS	50 50	242 245	<u>£</u> 1

Part Number		Part ESD Mfr Cla	ESD Class	Part Description	c				Technology	>	
HLMP-1719			-	Optoelectr	Optoelectronic Dev., Emitter, Single LED	itter, Singl	e LED		Unknown		1
	Test	t Test Test Test	Test	Test	Test	Number Date	Test	Test	Failure Test	st .	General
	<b>10</b>	403 0985 SS	SS	1500 Ohms	100E-12 F	5 N/R	20 FAILED	Voltage Pin Compination 100 REV. BIAS		Marks K	Kemarks 13
HLMP-3001		HEW	m	Optoelectr	Optoelectronic Dev., Emitter, Single LED	itter, Singl	e LED		Unknown		
	403	SS 5860	SS	1500 Ohms	100E-12 F	5 N/R	20 PASSED	15000 REV. BIAS	20	245	13
HLMP-3301		HEV	٣	Optoelectr	Optoelectronic Dev., Emitter, Single LED	itter, Singl	e LED		Unknown		
	403	s 5860	SS	1500 Ohms	100E-12 F	20 N/R	20 FAILED	5000 REV. BIAS	20	542	13
HLMP-3401		HE S	m	Optoelectro	Optoelectronic Dev., Emitter, Single LED	itter, Singl	e LED		Unkrown		
	403	SS 5860		1500 Ohms	100E-12 F	S N/R	20 FAILED	5000 REV. BIAS	20	545	13
HLMP-3507		3	m	Optoelectro	Optoelectronic Dev., Emitter, Single LED	itter, Singl	e LED		Unknown		
	403	0985 SS		1500 Ohms	100E-12 F	5 N/R	20 PASSED	15000 REV. BIAS	20	545	13
HLMP-5400		HEV	m	Optoelectro	Optoelectronic Dev., Emitter, Single LED	itter, Singl	o LED		Unknown		
	403	s \$860	SS	1500 Ohms	100E-12 F	20 N/R	20 FAILED	5000 REV. BIAS	20	545	13
HLMP-D600		HEV	m	Optoelectro	Optoelectronic Dev., Emitter, Single LED	itter, Singl	e LED		Unknown		
	403	0985 SS		1500 Ohms	100E-12 F	5 N/R	20 PASSED	15000 REV. BIAS	20	542	13
HLMP-K100		HEV	м	Optoelectro	Optoelectronic Dev., Emitter, Single LED	itter, Singl	F LED		Unknown		
	403	SS 5860		1500 Ohms	100E-12 F	5 N/R	20 PASSED	15000 REV. BIAS	20	542	13

Part		Part ESD Mfr Cla	ESD	Part Description					Technology	>	
HPWR-6503			-		field Effect,	Transistor, Field Effect, MOS, N-Channel			Not Applicable	cable	1
	Test Source 396	ce Date	t Test	Test Test Test  Date Type Resistance Ca 1081 SS 1500 Ohms 15	Test Number Capacitance Pulses 150E-12 F 1	Number Date Number Test Pulses Code Devices Result 1 N/R 3 FAILED	비유	Voltage Pin Combination 100 G-S AND G-D (+ -)	Failure Test Criteria Remarks 102 252		Seneral Remarks 13
IRF322		RCA	-	Transistor, F	ield Effect,	Transistor, Field Effect, MOS, N-Channel			Not Applicable	cable	
	393	0384	ss •	1500 Ohms 10	100E-12 F	1 N/R	1 FAILED	1200 N/R	102	252	13
1RF350		IRC	7	Transistor, F	ield Effect,	Transistor, Field Effect, MOS, N-Channel			Not Applicable	cable	
	393	0284	SS +	1500 Ohms 10	100E-12 F	1 N/R	1 FAILED	3500 N/R	102	252	13
IRL60		111	٣		ic Dev., Emit	Optoelectronic Dev., Emitter, Single LED, Infrared	, Infrared		Unknown		
	386	χ/χ α	N/N	1500 Ohms 10	100E-12 F	1 N/R	1 FAILED 1 FAILED	15870 A(+) C(-) 4060 C(+) A(-)	101	190	13 13
IVN5201TNF		181	-	Transistor, F	ield Effect,	Transistor, Field Effect, MOS, N-Channel			Not Applicable	cable	
	396	0582	SS	1500 Ohms 15	150E-12 F	1 N/R	5 FAILED	100 G-S AND G-D (+ -)	102	252	13
LNA351		8	Z	Diode, Zener, Voltage Reference	, Voltage Ref	erence			Not Applicable	cable	
	020	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1	126405 N/R	102	189	13
LVA356		N/R	Z	Diode, Zener, Voltage Reference	, Voltage Rei	erence			Not Applicable	cable	
	048	N/R	SS	100 Ohms 21	218E-12 F	1 N/R	1 PASSED	3000 N/R	14	252	23
LVA51A		TRU	z	Diode, Zener, Voltage Reference	, Voltage Rei	erence			Not Appiicable	cable	
	620	M/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED	124453 N/R	102	188	51

Part Number		Part ESD Mfr Cla	ESD Class	Part Description	ç				Tochool	}	
LVA91A			×	Diode, Zer	Diode, Zener, Voltage Reference	eference			Not Applicable	icable	I
	Test	Test	Test Test Test	Test	Test	Date	mber Test T		Failure Te		General
	620	N/R	× ×	1500 Ohms	100E-12 F	1 N/R	1 FAILED	vevices kesult Voltage Pin Combination 1 FAILED 93922 N/R	Criteria Remarks 102 189		Remarks 13
MCT2		N/R	M	Optoelectr	onic Dev., Ph	otocoupler, Ph	Optoelectronic Dev., Photocoupler, Phototrans. Output	ut	Unknown		
	030	N/R	χ α	1500 Ohms	100E-12 F	1 N/R	1 FAILED	9000 N/R	103	252	13
MD-1151		ANZ	-	Diode, Spe	Diode, Special Function				Not Applicable	cable	
	392	1186 SS	SS	1500 Ohms	100E-12 F	1 N/R	3 FAILED 3 FAILED	2000 PIN 1 & 3 TO PIN 4 (+ -) 2750 PINS 1 & 3 TO PIN 4 (+ -)	91	252 252	13
ME60		111	m	Optoelectr	Optoelectronic Dev., Emitter, Single LED, Infrared	itter, Single	LED, Infrared		Unknown		
	386	N/R	N/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	15680 A(+) C(-) 4010 C(+) A(-)	101	190	13
MJEC340		MOT	2	Transistor	Transistor, Bipolar, NPN				Not Applicable	cable	
	392	1086 SS	SS	1500 Ohms	100E-12 F	1 N/R	5 PASSED	2750 B-E (+ -)	19	252	13
MLED900		111	ю	Optoelectr	Optoelectronic Dev., Emitter, Single LED, Infrared	tter, Single	LED, Infrared		Unknown		
	386	N/R	X/R	1500 Ohms	100E-12 F	1 N/R	1 FAILED 1 FAILED	19850 A(+) C(-) 5120 C(+) A(-)	101	190	13
MMCM918		MOT	7	Transisto~	Transistor, Bipolar, NPN				Not Applicable	cable	
	392	1186 SS	SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	2750 C & E TO BASE (+ -)	4	252	13

Part		Part ESD Mfr cla	ESD	Part Description	c				Technology	À	
MMF-2402			-	Transistor	Transistor, Microwave/RF				Not Applicable	icable	
	Source 392	t Tes	Test Test Test <u>Date Type Resis</u> 0187 SS 1500	Test Test Test Test Source Date Type Resistance 392 0187 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date Number Test Pulses Code <u>Devices Resul</u> 1 N/R 5 FAILE	糕요	Voltage Pin Combination 850 D & S TO G (+ - )	Failure Test General <u>Criteria Remarks Remarks</u> 19 252 13	est Ge <u>lemarks Re</u> 252	General Remarks 13
MR501		¥01	m		Diode, Rectifier, High Power	ower			Not Applicable	icable	
	050	N/R		N/R 1500 Ohms	100E-12 F	1 N/R	1 FAILED	9962 N/R	102	188	13
MRF571		MOT	2		Transistor, Microwave/RF, Bipolar	, Bipolar			Not Applicable	icable	
	392		1086 SS	1500 Ohms	100E-12 F	1 N/R	5 PASSED	2750 B-E (+ -)	91	252	13
MTM1224		MOT	-	Transistor	Transistor, Field Effect, Junction, N-Channel	, Junction, N	-Channel		Not Applicable	icable	
	396		1081 SS	1500 Ohms	150E-12 F	1 N/R	4 FAILED	500 G-S AND G-D (+ -)	102	252	13
MTM15N05		MOT		Transistor,	Transistor, Field Effect, MOS, N-Channel	, MOS, N-Chan	nel		Not Applicable	icable	
	007		0188 SS	1500 Ohms	100E-12 F	68 N/R	10 FAILED	680 N/R	123	0	10
MTM6N60		<b>M</b> 01	-	Transistor,	Transistor, Field Effect, MOS, N-Channel	, MOS, N-Chan	nel		Not Applicable	icable	
	700		0188 SS	1500 Ohms	100E-12 F	14 N/R	10 FAILED	1350 N/R	123	0	2
MTP15N06		MOT	-	Transistor,	Transistor, Field Effect, MOS, N-Channel	, MOS, N-Chan	nel		Not Applicable	icable	
	007		0188 SS	1500 Ohms	100E-12 F	54 N/R	10 FAILED	540 N/R	123	0	10
MTP5N05		MOT	<del></del>	Transistor,	Transistor, Field Effect, MOS, N-Channel	., MOS, N-Chan	inet		Not Applicable	icable	
	700		0188 SS	1500 Ohms	100E-12 F	6 N/R	10 FAILED	520 N/R	123	О	10

Part Number		Part ESD Mfr Cla	ESD Class	Part Description	c				Technology	2	
MV-108			<b>m</b>	Optoelectr	Optoelectronic Dev., Emitter, Single LED	er, Single L	ED		Unknown		
	Test	بو	Test Type	Test Resistance	Test Capacitance	Number Date Number Pulses Code Devices	Test	Test Voltade Din Combination	Failure Test	ب د	General
	88	N/R	N/R	1500 Ohms		N/N	FAILED	31950 A(+) C(-)	101	190 E	13
							1 FAILED	8320 C(+) A(-)	101	190	13
NE 64587		MEC	٣	Transistor,	Transistor, Microwave/RF				Not Applicable	icable	
	705	0887 \$\$	SS	1500 Ohms	100E-12 F	5 N/R	2 FAILED	4500 N/R	89	252	13
NEC327		NEC	<del></del>	Transistor,	Transistor, Bipolar, NPN				Not Applicable	icable	
	392	1186 SS	SS	1500 Ohms	100E-12 F	1 N/R	5 FAILED	2000 C-E TO BASE (+ -)	19	252	13
NEL 230120		WEC	m	Transistor,	Transistor, Microwave/RF				Not Applicable	icable	
	705	1087 SS		1500 Ohms	100E-12 F	5 N/R	2 FAILED	10000 N/R	89	252	13
NEL230153		NEC	m	Transistor,	Transistor, Microwave/RF				Not Applicable	icable	
	405	1087	SS	1500 Ohms	100E · 12 F	5 N/R	2 FAILED	10000 N/R	89	252	13
NEL230154		NEC	m	Transistor,	Transistor, Microwave/RF				Not Applicable	icable	
	405	1087 SS		1500 Ohms	100E-12 F	5 N/R	2 FAILED	10000 N/R	89	252	13
NEL230163		NEC	m	Transistor,	Transistor, Microwave/RF				Not Applicable	icable	
	405	1087 SS		1500 Ohms	100E-12 F	5 N/R	2 FAILED	10000 N/R	8	252	13
NEL230197		NEC	M	Transistor,	Transistor, Microwave/RF				Not Applicable	icable	
	705	1087 SS		1500 Ohms	100E-12 F	5 N/R	2 FAILED	10000 N/R	89	252	13

Part Number		Part ESD Mfr Cla	ESD Class	Part s Description	c				Technology	<u>&gt;</u>	
P197018			-		Transistor, Microwave/RF				Not Applicable	capte	l
	Source 402	res Ses Oss	Test Test  Date Type  0887 SS	Test Test Test  Date Type Resistance 0887 SS 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Date Code N/R	비유	Test Voltage Pin Combination 1000 N/R	Failure Test Criteria Remai 68	<u>취</u>	General Remarks 13
QXTR-5916		HEV	2	2 Transistor	Transistor, Microwave/RF				Not Applicable	cable	
	392		SS 9860	1500 Ohms	100E-12 F	1 N/R	3 FAILED 3 FAILED	2600 B-E (+ -) 2600 BASE TO EMITTER (+ -)	91 9	252 250	13
\$0241		TRU	M	3 Diode, Reci	Diode, Rectifier, Power Schottky	Schottky			Not Applicable	eldeo	
	026	0281	31 SS	100 Ohms	200E-12 F	1 N/R	4 FAILED	1400 C(+) A(-)	38	256	13
SKA4504		1EK	-	Transistor					Not Applicable	cable	
	014	N/N	SS	100 Ohms	100E-12 F	1 N/R	1 FAILED	775 B C	102	54	13
	015	N/R	SS	10C0 Ohms	100E-12 F	1 N/R	1 FAILED	1900 в с	102	22	13
SKA4504		N/R	z	Transistor					Not Applicable	cable	
	016	N/N	SS	10K Ohms	100E-12 F	1 N/R	1 FAILED	5000 B C	102	63	13
SKA6516		TEK	-	Transistor					Not Applicable	cable	
	014	N/R	SS	100 Ohms	100E-12 F	1 N/R	1 FAILED	450 B C	102	52	13
	015	N/R	SS	1000 Ohms	100E-12 F	1 N/R	1 FAILED	1625 B C	102	50	13
SKA6516		N/R	Z	V Transistor					Not Applicable	cable	
	016	N/R	SS	10K Ohms	100E-12 F	1 N/R	1 FAILED	7800 B C	102	К	13

Part		Part ESD	Part		
Number		Mfr Class	Description	Technology	
SM692-1			Transistor, .ow Power, PNP	Not Applicable	
	Test Source 029	Test Test Test Test Source Date Type Resis 029 N/R N/R 1500	st Test Test Number Date Number Test Test <u>Resistance Capacitance Pulses Code Devices Result Voltage Pin Cumbination</u> 1500 Ohms 100E-12 F 1 N/R 1 FAILED 1871 B(+) E(-)	Failure Test Gener Criteria Remarks Remar 102 189	ral rks 13
SP10962		TEX 3	3 Transistor, High Power, PNP	Not Applicable	
	705	0887 SS	1500 Ohms 100E-12 F 5 N/R 6 FAILED 6000 N/R	68 252 13	13
SPF1303		MOT 2	2 Transistor, Field Effect, MOS, N-Channel	Not Applicable	
	393	1183 SS	1500 Ohms 100E-12 F 1 N/R 1 FAILED 2500 N/R	102 252 1:	13
11551		N/R 2	2 Diode, Small Signal, General Purpose	Not Applicable	
	048	N/R SS	100 Ohms 218E-12 F 1 V/R 1 FAILED 450 N/R	14 252 25	83
UTR541CR		UNI 2	2 Diode, Rectifier, Fast Recovery	Not Applicable	
	392	088 <b>6</b> SS	1500 Ohms 100E-12 F 1 N/R 2 PASSED 2750 A-C (+ -) 2 PASSED 2750 C-A THEN A-C	19 252 19 252	13
VN4000A		SIX 1	Transistor, Field Effect, MOS, N-Channel	Not Applicable	
	396	0582 \$\$	1500 Ohms 150E-12 F 1 N/R 3 FAILED 500 G-S AND G-D (+	-) 102 252	5
VP0109N2		SUP 1	Transistor, Field Effect, Junction, P-Channel	Not Applicable	
	396	0282 SS	1500 Ohms 150E-12 F 1 N/R 3 FAILED 100 G-S AND G-D (+ -)	102 252	13

# SECTION 3.3

# PASSIVE COMPONENT SUSCEPTIBILITY TEST DATA

Part Number		Part ¿SD Mfr Class		Ĕ				Technology	Λbo	
0181A00361		BEC	Passive,	Resistor				Not App	Not Applicable	
	Test	Test Test Test	st Test	Test	Number Date Number	Test	Test	Failure	Test	General
	Sour	ce Date IVE	Source Date Type Resistance	Capacita	Pulses	Result	Voltage Pin Combination	Criteria		Remarks
	071	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 FAILED	15000 N/R	41	252	13
						1 FAILED	15000 N/R	17	252	13
						1 FAILED	15000 N/R	41	252	13
	072	0779 GN	1500 Ohms	100E 12 F	10 N/R	1 PASSED	2000 N/R	17	252	13
						1 FAILED	2000 N/R	17	252	13
						1 FAILED	2000 N/R	41	252	13
	073	0779 GN	.500 Ohms	100E-12 F	10 N/R	1 PASSED	170 N/R	41	252	13
						1 PASSED	170 N/R	17	252	13
						1 PASSED	170 N/R	17	252	5
0181A00363		8EC 1	1 Passive, R	Resistor				Not App	Not Applicable	
	071	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 FAILED	15000 N/R	17	252	13
						1 FAILED	15000 N/R	41	252	13
						1 FAILED	15000 N/R	17	252	13
	072	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	2000 N/R	41	252	13
						1 FAILED	2000 N/R	1,7	252	13
						1 FAILED	2000 N/R	17	252	13
	073	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	170 N/R	41	252	13
						1 PASSED	170 N/R	17	252	13
						1 PASSED	170 N/R	17	252	13
0181A00371		BEC 3	3 Passive, R	Resistor				Not App	Not Applicable	
	071	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 FAILED	1500U N/R	17	252	13
						1 FAILED 1 FAILED	15000 N/R 15000 N/R	41	252 252	ដ ដ
								•	† •	!

Part Number (Cont'd)	<del>G</del>	Part ESD Mfr Class	Part Description	_				Technology	>	
0181A00371			Passive,	Resistor				Not Applicable	icable	
	Test	Test Test Test	: Test	Test N	Number Date Number	Test	Test	Failure 1	Test G	General
	Sour	ce Date Iype	Source Date Type Resistance	Capacitance P	Pulses Code Devi	Devices Result V	Voltage Pin Combination	Criteria R	Remarks R	Remarks
	220	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	2000 N/R	41	252	13
						1 PASSED	2000 N/R	41	252	13
						1 FAILED	15000 N/R	41	252	13
	073	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	170 N/R	41	252	5
						1 PASSED	170 N/R	41	252	5
						1 PASSED	170 N/R	41	252	13
0181A00373		BEC 3	Passive, Re	Resistor				Not Applicable	icable	
	170	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 FAILED	15000 N/R	41	252	13
						1 FAILED	15000 N/R	41	252	13
						1 FAILED	15000 N/R	41	95	13
	072	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	2000 N/R	1,4	252	13
						1 PASSED	2000 N/R	41	252	13
	073	0779 GN	1500 Ohms	100E-12 F	10 N/R	1 PASSED	170 N/R	41	252	13
						1 PASSED	170 N/R	41	252	13
899-1-R		BEC 2	Passive, Re	Resistor, Film,	Metal			Not Applicable	icable	
	700	22 1900	(		2	5	W/ N 377	104	ò	Ç
	050					ול גאורכם	N/N COO	2	5	2
A377DJJ-00		ככר 5	Passive,	Resistor, Wirewound	puno			Not Applicable	icable	
	392	1286 SS	1500 Ohms	100E-12 F	1 N/R	5 PASSED	2750 EACH PIN TO CASE (+ -)	19	152	5
CMF-50		DAL 3	Passive, Re	Resistor, Film,	Film, Thick			Not Applicable	icable	
	415	0781 SS	1500 Ohms	100E-12 F	23 N/R	5 FAILED	4500 ACROSS THE RESISTOR	102	32	28

Part Number (Cont'd)	Cont'd)		ESD Class	Part Description	c				Technotogy	,	
CMF-S0		DAL DAL	m	Passive, R	Resistor, Film, Thick	, Thick			Not Applicable	cable	1
	Test	Test Test Test	Test	Test	Test	Number Date Number	Test	Test	Failure Test		General
	Sour 215	ce Date	Z Z Z	Source Date Type Resistance	Capacitance	Pulses Code De	Devices Result V	Voltage Pin Combination	Criteria Re	Remarks Re	Remarks 28
		; ;	3	} .	:	; }			2	3	3
CMF-55		DAL	m	Passive, R	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	=======================================	78
	415	0781 SS	SS	1500 Ohms	100E-12 F	50 N/R	5 FAILED	10000 ACROSS THE RESISTOR	102	\$	28
CMF-60		DAL	M	Passive, R	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781	SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	35	28
	415	0781	SS	1500 Ohms	100E-12 F	23 N/R	5 FAILED	4500 ACROSS THE RESISTOR	102	7.0	78
CMF-65		DAL	Z	Passive, Re	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED 5 PASSED	16000 ACROSS THE RESISTOR 16000 ACROSS THE RESISTOR	102	45 51	28 28
EMF-50-100	0	DAL	М	Passive, Ro	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	23 N/R	S FAILED S FAILED S FAILED	4500 ACROSS THE RESISTOR 4500 ACROSS THE RESISTOR 4500 ACROSS THE RESISTOR	102 102 102	56 55	78 78 78 78
EMF-55-100	0	DAL	-	Passive, R	Resistor, Film,	Film, Thick			Not Applicable	cable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	21	٥	88

Part Number (Cont'd)	<del>6</del>	Part ESD Mfr Class	Part Description	c				Technology	>	
EMF-55-100		DAL 1	Passive,	Resistor, Film, Thick	Thick			Not Applicable	cable	
	Test	Test Test Test	t Test	Test	Date	Test	Test			General
	Sour \$15	ce Date IVE 0781 SS	Source Date Type Resistance 415 0781 SS 1500 Ohms	Capacitance 100E-12 F	Pulses Code Device	Devices Result V	Voltage Pin Combination 4500 ACROSS THE RESISTOR	Criteria Ke	Kemarks Ke	Remarks 28
	415	0781 SS	1500 Ohms	100E-12 F	8 N/R	5 FAILED	1500 ACROSS THE RESISTOR	21	23	88
EMF-60-100		DAL 3	Passive,	Resistor, Film, Thick	Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	21	12	78
	415	0781 \$\$	1500 Ohms	100E-12 F	23 N/R	5 FAILED 5 FAILED	4500 ACROSS THE RESISTOR 4500 ACROSS THE RESISTOR	21	% &	28 28
EMF-65-1		DAL 1	Passive, R	Resistor, Film, Thick	Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	21	61	88
	415	0781 SS	1500 Ohms	100E-12 F	50 N/R	5 FAILED	10000 ACROSS THE RESISTOR	21	•	28
	415	0781 SS	1500 Ohms	100E-12 F	8 N/R	5 FAILED	1500 ACROSS THE RESISTOR	21	17	88
ERC-50		DAL 1	Passive, R	Resistor, Film, Thick	Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	٥	28
	415	0781 SS	1500 Ohms	100E-12 F	8 N/R	5 FAILED	1500 ACROSS THE RESISTOR	102	87	28
	415	0781 SS	1500 Ohms	100E-12 F	23 N/R	5 FAILED	4500 ACROSS THE RESISTOR	102	72	28
ERC-55		DAL 3	Passive,	Resistor, Film, Thick	Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	30	28

Technology Not Applicable	tage Pin Combination Criteria Remarks Remarks 4500 ACROSS THE RESISTOR 28	THE RESISTOR 102 4 28	Not Applicable	16000 ACROSS THE RESISTOR 21 9 28	THE RESISTOR 21 18 28 THE RESISTOR 21 39 28	Not Applicable	THE RESISTOR 21 9 28	THE RESISTOR 21 5 28	THE RESISTOR 21 27 28	Not Applicable	10000 ACROSS THE RESISTOR 43 49 28 10000 ACROSS THE RESISTOR 21 2 28	THE RESISTOR 21 26 28	Not Applicable	1000 INPUT(+) TO COMMON 107 58 13
	Test Test Result Voltage Pin Combination FAILED 4500 ACROSS THE RESI	10000 ACROSS THE		16000 ACROSS	4500 ACROSS 4500 ACROSS		16000 ACROSS THE	4500 ACROSS THE	1500 ACROSS THE		10000 ACROSS 10000 ACROSS	16000 ACROSS THE		1000 INPUT(
	_	5 FAILED		5 PASSED	5 FAILED 5 FAILED		5 PASSED	5 FAILED	5 FAILED		5 FAILED 5 FAILED	5 PASSED		3 PASSED
m, Thick	Number Pulses 23	50 N/R	m, Thick	80 N/R	23 N/R	m, Thick	80 N/R	23 N/R	8 N/R	m, Thick	50 N/R	80 N/R	n, Metal	10 N/R
on Resistor, Film, Thick	Test Capacitance 100E-12 F	100E-12 F	Resistor, Film, Thick	100E-12 F	100E-12 F	Resistor, Film,	100E-12 F	100E-12 F	100E-12 F	Resistor, Film, Thick	100E-12 F	100E-12 F	Resistor, Film, Metal	200E-12 F
Part Descripti Passive,	r Test Resistance 1500 Ohms	1500 Ohms	Passive, R	1500 Ohms	1500 Ohms	Passive, R	1500 Ohms	1500 Ohms	1500 Ohms	Passive, R	1500 Ohms	1500 Ohms	Passi <b>ve,</b> R	1000 Ohms
Part ESD Mfr Class DAL 3	Test Test Test Test Source Date Type Resistance 415 0781 SS 1500 Ohms	0781 SS	DAL 3	0781 SS	0781 SS	DAL 1	0781 SS	0781 SS	0781 SS	DAL 3	0781 SS	0781 SS	HYC N	0182 GN
(Cont.d)	Source 415	415		415	415		415	415	415		415	415		387
Part Number ( ERC-55			ERL-05			ERL-07				ERL-20			HC210S-2R	

Part Number (Cont'd)	t 'd)	Part ESD Mfr Cla	ESD Class	Part Description	UC				Technology	}	
HC210S-2F		нус	Z	Passive, R	Resistor, Film, Metal	n, Metal			Not Applicable	icable	
	Test	Test Test Test	Test	Test		Number Date	Test	Test			General
	ZS ZS	387 0182	<u>원</u> 건 경	1000 Obmc	Capacitance	Pulses Code	Result	Voltage Pin Combination			Remarks
	₹	200	5			Z Z	7 PASSED	1000 INPO TO INPO!	107	2 2	5 t
								1000 V(+) TO COMMON	101	χ 82	<u>.</u> 5
							3 PASSED	1000 V(-) TO COMMON	107	58	13
	388	N/R	S	1000 Ohms	200E-12 F	10 N/R	3 FAILED	10000 INPUT(+) TO COMMON	107	58	5
								10000 INPUT TO INPUT	107	28	13
								10000 OUTPUT(-) TO COMMON	107	58	13
								10000 V(+) TO COMMON	107	28	13
							S FAILED	10000 V(-) TO COMMON	107	28	5
MF-1		DAL	z	Passive, R	Resistor, Film, Thick	ı, Thick			Not Applicable	icable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	7.	č
						:	5 PASSED	16000 ACROSS THE RESISTOR	102	9	88
MF-1/10		DAL	m	Passive, R	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781	SS	1500 Ohms	100E-12 F	50 N/R	5 FAILED	10000 ACROSS THE RESISTOR	102	7,7	28
	415	0781 SS	SS	1500 Ohms	100E-12 F	23 N/R	5 FAILED	4500 ACROSS THE RESISTOR	102	22	28
•											
MF-1/2		DAL	m	Passive, R	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	50 N/R	5 FAILED 5 FAILED	10000 ACROSS THE RESISTOR 10000 ACROSS THE RESISTOR	102 102	55	88 88
MF-1/4		DAL	2	Passive, R	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	٧	88

Part Number	(Cont'd)	Part ESD Mfr Class	Part Descript	io				Technology	2	
MF-1/4		DAL		Resistor, Film, Thick	, Thick			Not Applicable	cable	ł
	Test Source 415		Test Test Test <u>Date Type Resistance</u> 0781 SS 1500 Ohms	Test Capacitance 100E-12 F	Number Date Number Pulses <u>Code Devices</u> 80 N/R	Test Result PASSED	Test Voltage Pin Combination 16000 ACROSS THE RESISTOR	Failure Test Criteria Remarks 102 67		General Remarks 28
MF-1/8		DAL	3 Passive,	Resistor, Film, Thick	, Thick			Not Applicable	icable	
	415	0781 SS	\$ 1500 Ohms	3 100E-12 F	23 N/R	5 FAILED 5 FAILED	4500 ACROSS THE RESISTOR 4500 ACROSS THE RESISTOR	102 102	27 36	58 28
MF-50		DAL	3 Passive,	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	; 100E-12 F	50 N/R	5 FAILED 5 FAILED	1000G ACROSS THE RESISTOR 10000 ACROSS THE RESISTOR	102 102	14 53	<b>78</b>
PTF-55		DAL	1 Passive,	Resistor, Film, Thick	, Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	61	28
	415	0781 SS	. 1500 Ohms	100E-12 F	23 N/R	5 FAILED	4500 ACROSS THE RESISTOR	102	16	88
	415	0781 SS	1500 Ohms	100E-12 F	8 N/R	5 FAILED	1500 ACROSS THE RESISTOR	102	61	28
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	61	28
	415	0781 SS	. 1500 Ohms	100E-12 F	23 N/R	5 FAILED	4500 ACROSS THE RESISTOR	102	91	28
	415	0781 SS	1500 Ohms	100E-12 F	8 N/R	5 FA:LED	1500 ACROSS THE RESISTOR	102	34	82
P1F-60		DAL	1 Passive,	Resistor, Film,	Film, Thick			Not Applicable	cable	
	415	0781 SS	1500 Ohms	100E-12 F	80 N/R	5 PASSED	16000 ACROSS THE RESISTOR	102	8	28

Part <u>Number (Cont'd)</u> PTF-60	1	Part E Mfc C DAL	ESD Class 1	Part <u>Description</u> Passive, Ree	on Resistor, Film, Thick	Thick			Technology Not Applicable	gy icable	1
	Test Source 415		Test Test Test Date Type Resis 0781 SS 1500	Test Resistance 1500 Ohms	Test <u>Capacitance</u> 100E-12 F	Number Date N Pulses Code D 50 N/R	Number Date Number Test Pulses Code Devices Result 1 50 N/R 5 FAILED	Test Voltage Pin Combination 10000 ACROSS THE RESISTOR	Failure Test  Criteria Remai	3 ks	General Remarks 28
	415	0781 SS		1500 Ohms	100E-12 F	8 N/R	5 FAILED	1500 ACROSS THE RESISTOR	102	45	28
RBR56L27400		ULT	M	Passive, R	Resistor, Film,	Film, Thin			Not Applicable	icable	
	436	1186 SS		1500 Ohms	100E-12 F	18 N/R	1 PASSED	4000 N/R	2	252	m
RBR56L32401		ULT	ю	Passive, R	Resistor, Film, Thin	Thin			Not Applicable	icable	
	436	1186 SS		1500 Ohms	100E-12 F	18 N/R	2 PASSED	4000 N/R	ς.	252	M
RLR07C1003FS		TRU	М	Passive, R	Resistor				Not Applicable	icable	
	736	1186 SS		1500 Ohms	100E-12 F	18 N/R	36 PASSED	4000 N/R	2	252	
RN50H1692		N/R	~	Passive, Ro	Resistor				Not Applicable	icable	
	074	N/R	SS	0 Ohms	200E-12 F	1 N/R	1 FAILED	200 N/R	07	252	13
	075	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 PASSED 1 PASSED	1000 N/R 1000 N/R	07	252 252	13
	078	M/R	SS	1000 Ohms	200E-12 F	1 N/R	1 PASSED 1 FAILED 2 FAILED	1000 N/R 1000 N/R 1000 N/R	07 07 07	252 252 252	13 13 13
	081	N/R	SS	1000 ohms	200E-12 F	1 N/R	1 FAILED	2000 N/R	70	252	13
	082	N/R	S	1000 Ohms	200E-12 F	1 N/R	1 FAILED	4000 N/R	70	252	13

Part Number (Cont'd)	(p.	Part ESD Mfr Cla	ESD Class		vo				Technology	λō	
RN50H1692		N/R	-	Passive,	Resistor				Not Applicable	icable	
	Source 085	Test Ce Date N/R	Test Test Test Source Date Type 085 N/R SS	Test Test  Iype Resistance SS 1000 Ohms	Test Capacitance 200E-12 F	Number Date Number Pulses Code Devices 1 N/R	Test Result FAILED	Test Voltage Pin Combination 1100 N/R	Failure Test Criteria Remarks 40 252	Test Ge Remarks Rei 252	General Remarks 13
RN50H4532		<b>₹</b>	-	Passive,	Resistor				Not Applicable	icable	
	920	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 PASSED	2000 N/R	07	252	13
	220	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 PASSED	2500 N/R	70	252	13
	078	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 FAILED	1000 N/R	07	252	13
	620	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 PASSED	2000 N/R	07	252	13
	080	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 FAILED	1500 N/R	07	252	13
	083	N/R	SS	0 Ohms	200E-12 F	1 N/R	1 FAILED	2000 N/R	07	252	13
RNC55H		DAL	Z	Passive,	Resistor				Not Applicable	icable	
	026	0281	11 SS	100 Ohms	200E-12 F	1 N/R	4 FAILED	3000 N/R	106	285	51
RNC55H1183FS		T3W	3	Passive,	Resistor				Not Applicable	icable	
	436	118	1186 SS	1500 Ohms	100E-12 F	18 N/R	3 PASSED	4000 N/R	2	252	м
RNC55H3322		N/R	<b></b>	Passive, R	Resistor				Not Applicable	icable	
	070	N/R	SS	1000 Ohms	200E-12 F	1 N/R	1 PASSED	2000 N/R	07	252	13
	084	X/R	SS	1000 Ohms	200E-12 F	1 N/R	1 FAILED	3500 N/R	70	252	13

Part Number (Contld)	ŧ	Part ESD		ç				Techoology	è	
	3		Passive,	Resistor				Not App	Not Applicable	
	Test	Test Test Test	t Test	Test	Date		Test	Failure Test	Test	
	ارق	ce Date Tyr	Q!	Capacitance	စီ ဒ	Result	Voltage Pin Combination	Criteria Remarks	Remarks	Remar
	300	N/K 55	SWUO DOOL	Z00E-12 P	X -	PASSED 2 FAILED	1000 X/R	07	252	<u>υ</u> Έ
						1 FAILED	3000 N/R	07	252	
RNC55H68		N/N X	Passive,	Resistor				Not App	Not Applicable	
	086	N/R SS	1000 Ohms	200E-12 F	1 N/R	3 FAILED	15000 N/R	07	252	13
RNC90Y178R00		ULT 3	3 Passive, R	Resistor				Not App	Not Applicable	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	٣
RNC90Y187R00		ULT 3	Passive,	Resistor				Not App	Not Applicable	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	\$	252	m
RNC90Y196R00		ULT 3	Passive,	Resistor				Not App	Not Applicable	
	736	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	m
RNC90Y205R00		ULT 3	3 Passive, R	Resistor				Not App	Not Applicable	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	\$	252	ю
RNC90Y20R000BR	بغ	ULT 3	Passive,	Resistor				Not App	Not Applicable	
	436	1186 SS	1500 Ohms	100E-12 F	18 N/R	3 PASSED	4000 N/R	5	252	М

Part		Part ESD	٠ م	Part					,	į	
Number		되 됩	ass	Mfr Class Description	وا				lecunotogy Not Applica	e l'de 2 i	
RNC90Y215R00		ULT	<b>~</b>	Passive, Rt	Resistor				שמר אחרורמחוב	נרפחוב	
	Test	Test Test Test	Test 1	Fest	Test	Number Date Number Test	umber Test 1	Test	Failure Test		General
	Sourc 436	1186	Type F	Resistance 1500 Ohms	Capacitance 100E-12 F	Pulses Code De 18 N/R	evices Result 1 5 PASSED	Source Date Type Resistance Capacitance Pulses Code Devices Result Voltage Pin Combination 436 1186 SS 1500 Ohms 100E-12 F 18 N/R 5 PASSED 4000 N/R	Criteria Remarks Remarks 5 252 3	emarks R 252	emarks 3
RNC90Y22600		ULT	æ	3 Passive, Re	Resistor				Not Applicable	icable	
	736	1186 SS		1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	8
RNC90Y226R000		ULT	δ.	3 Passive, Re	Resistor				Not Applicable	icable	
	736	1186 SS		1500 Ohms	100E-12 F	18 N/R	5 PASSED	4000 N/R	5	252	м
RNC90Y3K0100		VIS	W	3 Passive, Re	Resistor				Not Applicable	icable	
	736		SS	1186 SS 1500 Ohms	100E-12 F	18 N/R	2 PASSED 2 PASSED	4000 N/R 4000 N/R	\$ \$	252 252	мм

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54LS160       169       54LS374       1         54LS161       169       54LS38       1         54LS161A       170       54LS390       1         54LS162       170       54LS393       1         54LS163       170       54LS40       1         54LS164       170       54LS40       1         54LS165       170       54LS42       1         54LS166       170       54LS51       1	.78
54LS161       169       54LS38       1         54LS161A       170       54LS390       1         54LS162       170       54LS393       1         54LS163       170       54LS40       1         54LS164       170       54LS40       1         54LS165       170       54LS42       1         54LS166       170       54LS51       1	.78
54LS161A       170       54LS390       1         54LS162       170       54LS393       1         54LS163       170       54LS40       1         54LS164       170       54LS40       1         54LS165       170       54LS42       1         54LS166       170       54LS51       1	.79
54LS162       170       54LS393       1         54LS163       170       54LS40       1         54LS164       170       54LS40       1         54LS165       170       54LS42       1         54LS166       170       54LS51       1	.79
54LS163       170       54LS40       1         54LS164       170       54LS40       1         54LS165       170       54LS42       1         54LS166       170       54LS51       1	79
54LS164       170       54LS40       1         54LS165       170       54LS42       1         54LS166       170       54LS51       1	.79
54LS165       170       54LS42       1         54LS166       170       54LS51       1	.79
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# SECTION 5.0

### DATA SOURCES

#### 5.0 DATA SOURCES

The following section contains brief descriptions of the various data sources used in this publication. They are presented in numerical order by source code which is found in field No. 6 in the detailed data of Section 3.0. Note that there may be a range of source codes associated with one data source if different test methods were used by that source.

- Three Fairchild 2102LI ICs were tested using the standard human body model. The voltage was applied to each input with the positive voltage on the input and the negative on V<sub>SS</sub> or V<sub>DD</sub>. Pulsing started at 200 volts and incremented in 100-volt steps until failure occurred. Three pulses were given at each voltage. Out of a total of 39 inputs tested, 7 were damaged at 300 volts, 22 at 400 volts, 9 at 500 volts and 1 at 600 volts.
- Type 6514 Static RAMs from RCA and Monolithic Memories were the devices tested. The inputs were step-stressed until failure in both polarities. A positive potential at the input was found to be the more destructive condition.
- Devices of various technologies were stressed using a 100 pF and 0 ohm model. The inputs were step-stressed with one supply lead grounded. The voltage was increased in 100-volt steps until failure.
- MOS, STTL, and TTL devices were stressed using 125 pF capacitance and 0 resistance. The inputs were stressed with no other pins grounded (i.e., floating device model). In this situation, it is the capacitance of the device itself which allows energy to be dissipated causing device damage.
- A sampling of digital to analog converters from 6 different manufacturers were tested. Step-stress comparative testing was done using the standard human body model. A change in any electrical parameter of 10% or more was considered a failure. The following devices were tested:

005 (Cont'd)

Analog Devices	AD 7533
Micro Power Systems	AD 7520
Analog Devices	AD 7520
Intersil	AD 7520
Hybrid Systems	DAC 331
Raytheon	AD 7521
National	AD 7521

Various CMOS devices were tested using the standard human body model. A sample of four devices were step-stressed on a different pin combination for every voltage. The pin combinations used were:

<u>(+)</u>	_(-)
$V_{ m DD}$	Input
Input	$v_{SS}$
Input	Associated Output
Associated Output	Input

The voltage stepping increments were 200 volts starting at 400 volts. An out-of-spec current leakage was used as the failure criterion.

Various CMOS devices from two different manufacturers were tested in accordance with the applicable MIL-M-38510 slash sheet. This requires the device to withstand a stressing voltage of 400 volts. To obtain comparative data on the devices, a sample of 5 devices were also tested at 200, 400, and 600 volts with each device subjected to only one voltage.

#### 014-025 (Published paper, Ref. 10)

Various technologies (CMOS, TTL, STTL, LSTTL, ECL, transistors, diodes) were tested to determine the relative failure voltages. Each technology was tested using the human body model with various resistances and capacitances (100 to 10K ohm and 100 to 500 pF, respectively). Specific part numbers are not known.

- These tests were performed with an "in-house"-built VZAP tester utilizing a 200 pF capacitor and a 100 ohm resistor. Average failure voltages for a sampling of 4 devices was given using step-stressing.
- Tests were conducted on various bipolar devices, both digital and linear, using an Electro-tech Systems (ETS)-900 ESD tester (100 pF, 1500 ohm). A sample of 15 of each device type was tested at 1000 volts. The failure criterion was an out-of-spec DC parameter.

#### 028 (Publisher paper, Ref. 8)

Various semiconductor devices were step-stressed with a circuit similar to the MIL-M-38510 slash sheet spec (117 pF, 1500 ohm). Step voltages of 250, 500, 1000, 1500 and 2500 volts were used with 30 pulses applied at each voltage. A DC parameter change of 10% or more was used as the failure criterion. Devices were also stressed at 75% of the threshold and then burned in to detect possible ESD-induced latent failures. (The 75% pulsing data is not included in the detailed data section of this book).

#### 029 (Published report, Ref. 11)

The data in the detailed data section under the 029 source code was theoretically derived from data contained in the SUPERSAP2 database, which contains parametric data on many electronic devices including diodes, transistors, and microcircuits. The parameters are derived theoretically and empirically from EMP test data.

This document contains worst-case failure voltages for many different microcircuits, diodes and transistors referenced to the 100 pF, 1500 ohm human body model. Details of the test procedure was not known.

O31-047 This document contains a study to evaluate various NMOS and CMOS devices from various manufacturers for their ESD susceptibility. Various resistances and capacitances were used in the discharge circuit. Devices which were step-stressed (source codes 042-045) were stepped from 400 volts in 100-volt increments. Multiple pulsing was also carried out. For devices that were step-stressed (source code 045) four pulses were applied at each voltage. Multiple pulsing was also carried out at discrete voltages of 1000 volts (source code 046) or 500 volts (source code 047) until failure occurred. One input of the devices was stressed to V<sub>SS</sub>, V<sub>PP</sub> or V<sub>DD</sub> in both polarities.

#### 048 (Published paper, Ref. 15)

In this paper, several bipolar transistors, diodes, and JFETs were stressed with a 218 pF, 100 ohm discharge model. All devices were step-stressed with the stressing voltage increasing by 20% with every pulse. The starting voltages for MOS devices was 16 volts and for all others 70 volts. The maximum stressing voltage was 3000 volts.

049-060 ESD susceptibility testing was conducted on various transistors and ICs. Comparative data is given on the 741 op amp from three different manufacturers. Two advanced Schottky parts were also tested (the 74F00 and 74F04). For devices which were stepstressed the source code and associated step levels are as follows:

051	4000, 10000
052	50, 100, 200, 300, 400, 500, 600
053	500, 1000, 1500
054	1000, 2000

061-066 Tests were carried out on the following NMOS 16K dynamic RAMs:

TI	4116
NEC	416
Mostek	4116
Intel	(Part number not reported)

061-066 (Cont'd)

The source codes and associated voltage step levels for devices which were stepstressed are as follows:

061	500, 1000	
063	200, 400, 600, 800, 100	Ю

Two different resistances were used and multiple pulse testing was conducted.

- This document presents data on an STTL device (74S00) and a TTL device (7437). The voltages given are those required to cause 30% of the devices to fail. The inputs of the devices were tested using four different capacitances and no resistance. Findings indicate, on the average, the energy required to cause failure in the Schottky device is 25% that of the standard TTL device.
- 071-073 Resistance networks were tested for resistance change after stressing a sample of devices at either 170, 2000 or 15,000 volts using the standard human body model. A change in resistance of 2% was used as the failure criterion. Various resistance values were stressed with up to 10 pulses or until failure.
- 074-086 RNC 50 type 0.1% resistors in various resistance values were tested for their ESD susceptibility. Devices were stressed with a 200 pF, 1000 ohm human body model (except for devices with source code 074 and 083 which used no resistance in the test circuit). For devices which were step-stressed, the source code and associated stressing voltages are as follows:

074	50, 100, 200
075	300, 400, 500, 600, 700, 800, 900, 1000
076	1000, 1500, 2000
077	500, 800, 1000, 1200, 1500, 2000, 2500
078	500, 1000
079	500, 1000, 1500, 2000
080	500, 1000, 1500

074-086 (Cont'd)

081	2000, 3000, 4000, 5000
083	500, 1000, 1500, 2000, 2500, 3000, 3500, 4000
085	100, 200, 325, 400, 500, 1100
086	1000, 1500, 2000, 2500, 3000, 4000, 4500,
	5000, 6000, 8000, 10000, 15000

A change in resistance of 0.1% was used as the failure criterion.

#### 087-126 (Published paper, Ref. 4)

This report documents an extensive study by Hewlett Packard on the effects of ESD on various CMOS devices and investigates the possibility of ESD-induced latent failures. The data associated with these source codes were obtained primarily from Weibull plots, i.e., the voltages which would cause 10%, 50% and 90% of the devices to fail are given as cumulative failures. Since the sample size was known (25 for each device), the approximate number failing at each specified voltage can be calculated via the following formula:

$$\frac{i - .3}{N + .4}$$
 = % failed (÷ 100)

where

i = number failed

N = sample size

Therefore, at the 10% voltage approximately 3 devices failed, at 50% 10 more devices failed and at 90% 10 more, with approximately 2 devices passing the test at the 90% voltage.

Multiple pulsing was also carried out at a single test voltage (indicated by a GN under test type) on the Motorola 14049. The voltages chosen were 700, 900, 1100, 4500, 6000 and 7000, and the number of pulses were incremented until device failure (source codes 098-103).

- Three LSTTL devices (74LS09, 74LS175 and 74LS240) from various manufacturers were tested for their ESD susceptibility. The inputs were step-stressed in 200-volt increments starting at 400 volts with one pulse at each voltage. The procedure was repeated with 10 pulses at each voltage on another sampling of devices. It was noted that 90% of the failures exhibited input diode short circuits.
- Two low-power Schottky devices (the 54LS151 from two different manufacturers and the 54LS153) and one Schottky TTL device (54S157) were tested. All inputs on all devices were step-stressed to failure with five pulses at each voltage. The voltage increments were 100 volts starting at 400 volts. The failure voltage specified is an average of all inputs of that device (with the most susceptible given in the Remarks section).
- 129-139 Various MOS microprocessors were tested, the Mostek 3870 and 4116, the NEC D416C, and the Hitachi 4716AP. For the Mostek 3870, a sample of 5 devices were tested at 1000 and 2000 volts and 4 devices were tested at 3500V. For the other parts tested, a sample of 5 were tested at 500, 700, 800, 1000, and 1500 volts until all 5 parts failed.
- A sample of 40 MK3873s was tested at 300 volts with up to 3 pulses, and the survivor (only 1) was tested at 1000 volts.

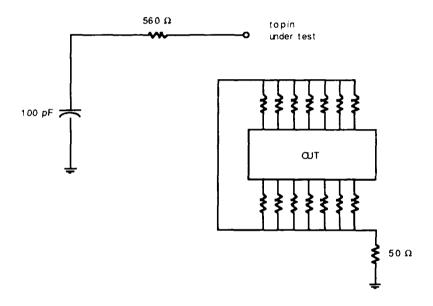
#### 141-155 (Published paper, Ref. 17)

This extensive study evaluates the input protection on CMOS devices using various resistances and capacitances on the 4001A (source codes 143-154).

Also, the 4011 from four different manufacturers was step-stressed on twelve different pin combinations. The failure voltage is given for each manufacturer and each pin combination.

#### 156-164 (Published paper, Ref. 18)

Testing was performed on various CMOS devices, the 4021A, 4021B, 4081B, 4011A and 4013A. To more closely approximate typical resistances seen by the device under test in actual circuit operation, the tests were carried out with a resistance (20K to 5M ohms) to ground. The schematic for the discharge circuit is as follows:



The pin under test was connected directly to the 560 ohm resistor. The supply pins were connected directly to the 50 ohm resistor to ground.

For each pin and polarity of the 4021A, two devices were stressed at 500, 1000, and 1500 volts (source codes 156-159).

After pulsing, the 4021A devices were put on life test at 150°C for 308 hours. Subsequent step-stress testing was performed up to 5500 volts (4021A data with source code 160).

The 4021B was step-stressed to 4000 volts to compare with the 4021A data.

The 4081B was step-stressed to 4500 volts and the 4011A and 4013A were stepped to 4000 volts.

Several CMOS ICs were subjected to ESD pulses and latch-up tests. The devices were stressed at 400 volts (in accordance with the MIL-M-38510 slash sheet specification) in the following sequence:

Input (-)	$V_{\mathrm{DD}}\left( +\right)$
Input (+)	V <sub>SS</sub> (-)
Input (+)	Output (-)
Input (-)	Output (+)

166-169 A 40-pin LSI PMOS device was subjected to discharges of 4000, 7000 and 10,000 volts using the standard human body model. The device was stressed in the following four pulse sequence:

Inputs (-)	$V_{\mathrm{DD}}\left( +\right)$
Inputs (+)	V <sub>SS</sub> (-)
Inputs (+)	Outputs (-)
Inputs (-)	Outputs (+)

The device had previously passed testing to 3000 volts.

170-230 (Published paper, Ref. 26)

This report documents extensive testing on the 74F04 and the 74F175 advanced Schottky TTL devices. The testing was done in three basic parts:

- (1) Classification testing in accordance with MIL-STD-1686A, Appendix B
- (2) Step-stress testing
- (3) Multiple pulse testing

All parts of these tests were performed with the standard human body model (100 pF, 1500 ohm) and carried out by three independent test labs.

#### 170-230 (Cont'd)

The step-stress testing was carried out in 100-volt increments from 100 to 1000 volts and 400-volt increments from 1000 to 5000 volts. One device was step-stressed on one pin (by each test lab) with all other pins tied together (APTT). This test was done in two conditions: (1) with all pins tied together grounded and (2) with all pins tied together floating (this condition is noted as such in Remarks).

Multiple pulse testing was also done in the two conditions mentioned above where a device was stressed at only one voltage by applying numerous pulses until failure. The devices were checked after 10, 30, 100, and 300 pulses.

A custom LSI phone converter IC was tested for its ESD susceptibility. The inputs of the device were tested by bringing a probe 1.5 feet long up to the pin for discharge. No resistance was used in the circuit.

#### 232 (Published paper, Ref. 34)

This document contains the damage constant  $(K_1)$  and breakdown voltage  $V_D$  for many diodes and transistors. The Wunsch model was used  $(P = Kt^{-.5})$  and the failure voltage calculated as in source code 029. A bulk resistance of 30 ohm was assumed for the calculations.

233 (See source codes 156-164)

#### 234-243 (Published paper, Ref. 19)

TTL devices 74H106, 74163, 74LS163, and 74173 were tested for their ESD susceptibility. The inputs of the devices were step-stressed with various capacitances (and no series resistance). The stepping increments were 100 volts starting at 100 volts. The charged capacitor was touched to the input of the device so that an arc discharge occurred. A curve tracer was used to detect failure.

### 244-245 (Published report, Ref. 20)

This document contains two types of test data: (1) ESD susceptibility using a 100 pF, 1500 ohm model (source code 244), and (2) system transient data using a 0.1 pF, 100 ohm model (source code 245). For the ESD susceptibility data, the devices were stepstressed to a maximum of 1000 volts. For the system transient data, the devices were step-stressed to a maximum of 300 volts and the failure voltage given is the average from 15 devices.

### 246-379 (Published paper, Ref. 13)

This report documents an extensive program undertaken by Westinghouse to study ESD-induced latent failures of various types of semiconductor devices. The study was conducted in two parts: (1) Latent Failure Study I, which studied the 2N4416, 3N170, 1N5711, CD4001A, 5404 and the 54S04, and (2) Latent Failure Study II, which studied in more detail the 3N128 and the 54L04. Both studies provided very detailed ESD susceptibility data on the parts, giving both single pulse and multiple pulse data. All testing was done with the standard human body model (100 pF, 1500 ohm).

### 380-382 (Published paper, Ref. 21)

This paper documents a study in which 16K NMOS EPROMs manufactured in both the United States and Japan were tested for their ESD susceptibility to various discharge models. Two human body models were used, the 100 pF, 1500 ohm model and a 200 pF, 0 ohm model. For each of the human body models used, a separate device from each vendor was step-stressed from 260 to 3000 volts in twelve steps. 1, 5, and 10 pulses were applied to each pin in both polarities.

Testing was also done on some parts using the charged device model. The devices tested using this model are noted in the Remarks section. The generic part number of these devices were not reported.

383 (Published paper, Ref. 22)

Various ICs of several technologies were tested using a square wave step-stress test (EMP test) at pulse widths of 100 ns, 1  $\mu$ s, and 10  $\mu$ s. From these tests, the damage constants  $K_1$  and  $K_2$  and the breakdown voltage  $V_D$  and bulk resistance  $R_B$  were calculated. Knowing these parameters, a theoretical ESD failure voltage was calculated.

384-385 (Published paper, Ref. 35)

Various ICs of several technologies (LSTTL, TTL, STTL, CMOS (B series), CMOS LSI, NMOS) were step-stressed using a 200 pF, 1000 ohm human body model. Steps were in increments of 100 volts from 100 to 5500 volts until failure. One pulse per pin was applied at each voltage.

386 (Published report, Ref. 23)

Various LEDs were tested with various pulse widths ranging from a few hundred nanoseconds to 100 µs. The damage constants were calculated and converted to an ESD level. A degraded light output was observed to be the most sensitive parameter and was used as the failure criterion along with a change in the I-V characteristics. This study was based on work outlined in Ref. 24.

A resistor network device was tested using 1000 and 10000 volt levels. Three devices were subjected to each voltage level using a 1000 ohm resistance and 200 pF capacitance. Five pulses were given per each polarity. An in-house built tester was used during this go/no go test. The failure criterion was a resistor network out-of-specification.

390 (Published paper, Ref. 38)

This version of the QPL added an Electrostatic Discharge Sensitivity Classification in accordance with MIL-STD-883C, Method 3015.2. Devices that pass the 2000V testing are given a (B) classification. Devices that did not pass are given an (A) classification. 1500 ohms and 100 pF are used for testing.

- During August, 1986, ESD Susceptibility Testing using an ETS-910 tester, accordance with the DoD-STD-1686 Human Body test method (1500 ohm and 100 pF). Of the commercial high speed CMOS tested using the average failed voltage of 30 devices was 2700 volts. The testing started at 1800 volt and increasing in 25 volt increments.
- An in-house test was performed with an IMCS-3000 tester in accordance with MIL-STD-883 method 3015.2, and using a 1500 ohm 100 pF human body model. The voltage levels were step stressed at 50, 200, 750, 1000 and 2750 volts. Samples of integrated circuits and discrete semiconductors from various manufacturers were stressed. The failure criterion was a 10% or greater change measured on any electrical parameter.
- An IMCS-2400B model tester using 1500 ohm resistance and 100 pF capacitance was used to step stress devices starting at 500 volts, with 500 volt increments to 5000 volts or failure. A variety of technologies were tested including CMOS, NMOS, ASTTL, and bipolar transistors from a variety of manufacturers.
- An IMCS-3000 model tester using 1500 ohm resistance and 100 pF capacitance was used to step stress devices starting at 100 volts, with 100 volt increments to 4000 volts or failure. A group of diodes from various manufacturers was tested.

### 395 (Published report, Ref. 39)

A Government Industrial Data Exchange Program (GIDEP) report No. F9-A-86-04 was released August 1986, in which a power rectifier from Unitrode Corporation was tested using an ETS-910 susceptibility tester. The Human Body (1500 ohm and 100 pF) model was used to step stress in increments of 100, 200, 500, 750, 1000, 2000 and 5000 volt levels.

### 396 (Published report, Ref. 40)

This data was published in a Rome Air Development Center (RADC), Technical Report, No. RADC-TR-84-129. Various manufacturers' VMOS Power Field Effect Transistors were subjected to an ESD susceptibility test using an in-house 1500 ohm 150 pF tester. 6 lots of 5 components each were tested in 100 volt increments starting at 500 volts until 3 out of 5 devices failed.

- Military high speed CMOS devices from 4 manufacturers were tested using the MIL-STD-883 Method 3015, 1500 ohm and 100 pF model. The voltage levels used in the step stress started at 500 volts, with 500 volt increments to 9000 volts or failure. Reported failure voltages were based on an average sample size of 10 per pin combinations.
- An in-house test was performed using the MIL-STD-883 Method 3015.2, 1500 ohms resistance and 100 pF capacitance test method. The voltage test was a go/no go 2000 volt test with 5 pulses per polarity. Neither the manufacturer nor model no. of the tester were reported. Optoelectronic coupler JANTXV 4N24 was tested using 3 samples to determine that it was not susceptible to static discharge.
- Commercial high speed CMOS devices from various manufacturers were tested, sample of sizes up to 15 devices were tested using a human body model (1500 ohm 100 pF model), go/no go, 2000 volt 5 pulses per polarity. The failure criteria was an increase in leakage current.

- An IMCS-2500 model tester using MIL-STD-883C Method 3015.4, 1500 ohm, 100 pF step stress testing started from 100V, in 100 volt increments to failure or 17,500 volts. If the device passed, it was then stressed in an in-house-built tester to 43,000 volts or failure. One pulse was applied per voltage increment. The failure criteria was determined by a change in leakage current.
- The model number of the IMCS tester was not reported. Testing of the EPROM's was per MIL-STD-883, Method 3015.4. The resistance was 1500 ohms and capacitance was 100 pF, voltage step stress levels were of 200 volt increments until failure with five pulses applied per voltage increments. The components tested were from different wafers and assembly lots.
- An IMCS-3000 model tester using MIL-STD-883C Method 3015.4, 1500 ohm, 100 pF model was used for step stressing at 500, 1000, 2000, 4000, 8000 and 16000 volt increments with five pulses per polarity. All untested pins were tied together.

A variety of diodes, transistors and integrated circuits from various manufacturers were tested.

### 403 (Published paper, Ref. 41)

An IMCS-2500 model tester using MIL-STD-883 Method 3015.1 with 1500 ohms and 100 pF, step stressed test samples starting at 1000 volts to failure. Five pulses were applied per polarity per increment. The failure criteria was 10% change in electrical characteristics. Twenty (20) LED samples of nine (9) die types were tested. The results of the test showed that failure mechanisms of the LED's were similar to those of semiconductor devices: dielectric breakdown, junction punch-thru, and metallization melt. The degree of sensitivity depended on the construction of the LED's. Some of the LED's which showed significant early reverse breakdown voltage, will function properly in the forward direction.

- During a DoD-STD-1686 in-house test, several discrete semiconductors from various manufacturers were tested using a 1500 ohm resistance and a 100 pF capacitance. Starting with a go/no go 1000 volt stress, if the component showed degradation after 10 pulses, additional components were then step stressed in 100 volt increments until failure. Information pertaining to the test apparatus manufacturer or model number was not supplied.
- A MIL-STD-883 Method 3015.4 test was performed on transient surge suppressors using an IMCS-3000 1500 ohm, 100 pF model. The components were step stressed in 1000 volt increments to 15000 volts or failure. One pulse per polarity was applied during each increment of the step stress. Each pin was tested with respect to pin 1 with the failure criterion of a 10% change in leakage current.
- 413 (Published paper, Ref. 42)

An IMCS-2400 tester using a MIL-STD-883 Method 3015, 1500 ohm, 100 pF capacitance model, step stressed at 50, 500, 2000, 6000, and 16000 voltage increments, five pulses per polarity per increment was applied to three types of microwave/RF transistors from one manufacturer.

- 414 CMOS components from four manufacturers were tested using the DoD-STD-1686 test method. A sample size of ten components each were subjected to a 1500 ohm 100 pF, 100 volt step stress starting at 500V until failure, five pulses per increment. The test results compared testing with all other pins open vs. all other pins grounded. All pins grounded showed a slightly lower failure voltage.
- Several metal film resistors from one manufacturer were tested to DoD-STD-1686 using an in-house built 1500 ohm 100 pF model tester. A step stress was performed beginning at 500 volts with 100 volt increments up to 1000 volts, then 250 volts increments to 3000 volts, 500 volt increments up to 6000 volts, and finally 1000 volt increments to 16000 volts or until failure. The failure criterion was a change in resistor tolerance of 0.5%.

An in-house tester was used to test CMOS technology from various manufacturers in accordance with MIL-STD-883C Method 3015.2. A 1500 ohm, 100 pF model was used. Step stress voltages starting at 100 volts were increased in increments of 100 volts until failure occurred.

The same source as 416 above except the resistance was 0 and the capacitance was 200 pF. A catastrophic failure was the failure criterion.

418 (Published paper, Ref. 43)

An in-house tester was used to test op amps. This was done per MIL-STD-883 Method 3015 using a 1500 ohm, 125 pF step stress. 500, 750, 1000, 1250 and 5000 volt one pulse increments, were applied per polarity.

419 (Published paper, Ref. 43)

Same source as 418 above except the voltage steps were changed to 1250, 1500, 2000 and 3000 volts. Five pulses were applied per increment per polarity.

420 (Published paper, Ref. 43)

Same source as 418 above but resistance was changed to zero ohms, while the capacitance stayed at 125 pF. The voltage step stress started at 100 volts and increased in increments of 100 volts until failure.

421-422 Several types of technologies were tested using both the human body model and the zero ohm model. The HBM testing was in accordance with MIL-STD-883 Method 3015.2 using a 1500 ohm resistance and a 100 pF capacitance, and applying 200 volt increments to 5000 volts or failure. This test was performed on an ETS-910 tester. For the zero ohm model; the capacitance was set at 200 pF. The same step stress voltage increment were applied. Both tests applied one pulse per voltage increment per polarity.

### 423-424 (Published paper, Ref. 44)

Several VLSI devices were tested using a in-house built tester. This test compared the human body model (HBM) with charge device model (CDM). The HBM used 1500 ohm resistance and 100 pF capacitance per MIL-STD-883 Method 3015.1. The step stress voltages were in 250 volt increments until failure with one pulse applied per polarity per stress increment. The failure criterion was a 10% change in leakage current.

- A Hartley Autozap 200 RD model tester using 1500 ohm resistance and 100 pF capacitance per MIL-STD-883 Method 3015.3 was used. Step stressing started at 100 volts increasing in increments of 100 volts to 1000 volts, then increasing in increments of 250 volts until failure. Five pulses were applied per increment per polarity. The testing involved CMOS and NMOS components with the reported failure voltages listed for each pin tested.
- An IMCS-2400B model tester using 1500 ohm resistance, 100 pF capacitance MIL-STD-883 Method 3015.3 test method was used to evaluate fast TTL, LSTTL, STTL and TTL technologies. The step stress voltage increments were 500, 1000, 2000, 4000, 8000 and 16000 volts with five pulses applied per increment per polarity. The failure criterion was a change of greater than 5 μ amp in leakage current at 0.5 volts. The failure mechanisms were listed as input and clamping diode failures.
- HMOS components were tested with an IMCS-2400 model tester using MIL-STD-883 Method 3015.3 (1500 ohm 100 pF capacitance). A go/no go 1200 volt pulse, 5 pulses per polarity was applied with all unused pins open.
- The same as 428 above, but using a in-house standard of zero ohms, 50 pF capacitance, go/no go 600 volt pulse, 3 pulses per polarity, with all unused pins grounded.

- The same source as 428. This time using a charge device model 10m ohms resistance, go/no go 1500 volt pulse, 3 pulses per polarity test with all unused pins open. The failure criterion for all three tests (428, 429, 430) were listed as a 25% change in leakage current or failed functionally.
- 431-435, An IMCS-2400 model tester using the MIL-STD-883 Method 3015.1 human body and 437 model 1500 ohm resistance, 100 pF capacitance with 5 pulses applied per polarity per voltage increment, was used to test several types of technologies. For PROM devices the step stress was started at 800 volts increasing in 100 volt increments until failure. For linear comparators and op amps there were two types of tests: (1) was a go/no go 2000 volt and (2) a step from 500 volts increasing in 250 volts increments to failure. For bipolar devices the step stress started at 750 volts and increased in 250 volt increments until failure. For linear and digital components a go/no go 2000 volt test was performed.
- An IMCS 2400 model tester using the DoD-STD-1686 human body model 1500 ohm resistance, 100 pF capacitance was used to step stress devices starting at 200 volts, increasing in 100 volt increments to 1000 volts, then increasing in 200 volt increments to 2000 volts, followed by 500 volt increments to 4000 volts or failure. Three pulses were applied per voltage increment per polarity. Both discrete semiconductors and integrated circuits from various manufacturers were tested.
- Bipolar and CMOS device were tested by an IMCS-2400 model tester using MIL-STD-883 Method 3015.3 human body model with 1500 ohm resistance and 100 pF capacitance. Go/no go 2000 volts pulses were applied, 5 pulses per polarity. The failure criterion was out-of-electrical specification.

### **SECTION 6.0**

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# APPENDIX A DERIVATION OF DATA CONVERSION FORMULAE

#### DERIVATION OF DATA CONVERSION FORMULAE

The derivation of two data conversion methodologies are presented here:

<u>Part I</u> Conversion of failure voltages using a nonstandard human body model to a theoretical failure voltage consistent with the standard model (100 pF, 1500 ohm).

This is only used for calculating a failure voltage consistent with the 100 pF, 1500 ohm model so that a classification can be derived in accordance with MIL-STD-1686A and MIL-HDBK-263.

Part II Conversion of empirical EMP overstress data to a theoretical ESD failure voltage.

#### Part I: Derivation of Nonstandard Human Body Model Test Data Conversion Formula

Since there is much data on parts using a discharge model other than the standard 100 pF, 1500 ohm, a method to convert the failure voltage to a level consistent with the 100 pF, 1500 ohm model for classification purposes is necessary. One way this can be accomplished is via a method similar to the EMP-to-ESD conversion method described in Part II of this appendix. However, for this method to work, one must know certain parameters of the device, namely the bulk resistance and breakdown voltage. Unfortunately, these parameters are seldom available, especially given the fact that for ICs the failure site is often not known.

A more direct conversion technique was therefore needed which could convert data without knowing these device parameters. Since the failure voltage of a device (the voltage on the capacitor) is proportional to the series resistance in the stressing circuits and inversely proportional to the capacitance in the circuit, the failure voltage, resistance, and capacitance can be approximately related as follows:

$$V = A \sqrt{\frac{R}{C}}$$

Here A is a constant dependent on the device parameters. Therefore, the ratio of failure voltages for two different RC models is in the general form:

$$\frac{V_1}{V_2} = \frac{A\sqrt{\frac{R_1}{C_1}}}{A\sqrt{\frac{R_2}{C_2}}} = \sqrt{\frac{R_1C_2}{C_1R_2}}$$

where:

 $V_2$  = observed failure voltage using  $C_2$  and  $R_2$ 

C<sub>2</sub> = capacitance used in nonstandard model (in pF)

R<sub>2</sub> = resistance used in nonstandard model (ohms)

V<sub>1</sub> = converted failure voltage

 $C_1$  = capacitance of model failure voltage is to be converted to (in pF)

R<sub>1</sub> = resistance of model failure voltage is to be converted to (ohms)

Therefore, when using 100 pF and 1500 ohm for  $C_1$  and  $R_1$  respectively, the following conversion equation is obtained:

$$V_1 = V_2 (3.87) \sqrt{\frac{C_2}{R_2}}$$

The relationship of V, C, and R was obtained through empirical methods (regression analysis) by reviewing data in which a device was tested with different C, R models and threshold voltages obtained for each model (Ref. 10, 14, 16, 17, 19, 25).

It must also be stressed that this relationship of V, C and R indicates an energy-dependent failure mechanism. This may not be an adequate assumption, if the failure mechanisms does not follow the Wunsch Bell Model (Ref. 28). Since the failure mechanism for a particular device is rarely known, this data conversion methodology is necessarily very approximate. Adding to this uncertainty is the fact that the failure mechanism characteristics can change with various RC values. For this reason this conversion was used to classify devices only in those cases where failure data from the 100pF, 1500 ohm model was not available.

This method is necessarily approximate and was used in the classification of devices only if data using the standard human body model was not available.

### Part II: Derivation of EMP-to-ESD Conversion Formula

By knowing certain parameters of a device, a theoretical ESD failure voltage can be calculated. The parameters needed for conversion of EMP overstress failure to a theoretical ESD failure voltage are (Reference 25):

 $R_{\mathbf{R}}$  = Bulk resistance of the device

V<sub>D</sub> = Breakdown voltage of device

 $K_1$  = Failure constant 1

 $K_2$  = Failure constant 2

The basic equation used for this conversion is:

$$P_{AV} = K_1 t^{-K_2}$$

where:

P<sub>AV</sub> = average power required for failure

t = pulse width p =  $V_D i + R_B i^2$  (time dependent power)

where i = time dependent current

 $p = V_D I_P e^{\frac{t}{\tau}} + R_B I_P^2 e^{\frac{t}{\tau}}$ 

where t = RC time constant of discharge

Integrating and averaging the power over 5 time constants yields:

$$P_{AV} = \frac{1}{5\tau} \int_{0}^{5\tau} V_{D}I_{P} e^{-\frac{t}{\tau}} dt + \frac{1}{5\tau} \int_{0}^{5\tau} R_{B}I_{P}^{2} e^{-\frac{2t}{\tau}} dt$$

$$= \frac{V_{D}I_{P}}{5} (1 - e^{-5}) + \frac{R_{B}I_{P}^{2}}{10} (1 - e^{-10})$$

$$(e^{-5} \text{ and } e^{-10} << 1)$$

therefore:

$$P_{AV} = \frac{V_D I_P}{5} + \frac{R_B I_P^2}{10}$$

$$K_1 t^{-K_2} = \frac{V_D I_P}{5} + \frac{R_B I_P^2}{10}$$

Using the quadratic equation solution to solve for Ip:

$$I_{P} = \frac{-2V_{D} + \sqrt{4 V_{D}^{2} + 40 R_{B} (K_{1}t^{-}K^{2})}}{2 R_{B}}$$

$$I_{P} = \frac{V - V_{D}}{R + R_{B}}$$
 (general equation for  $I_{P}$ )
$$V = I_{P} (R + R_{B}) + V_{D}$$
 (V = voltage on capacitor)
$$(R = \text{source resistance of model})$$

Assuming  $t = 5\tau - 5RC - 7.675 \times 10^{-7}$  for conversion to voltage level consistent with a 100 pF, 1500 ohm model and a nominal value of 30 ohms for R<sub>B</sub> yields:

$$V = \left[ \frac{-2V_D^2 + \sqrt{4V_D^2 + 1200 \text{ K}_1 (7.675 \times 10^{-7})^{-K_2}}}{60} \right] 1530 + V_D$$

## APPENDIX B REPORTING SENSITIVITY DATA

### TABLE 7: DATA ITEM DESRIPTION - 80670

### Form Approved DATA ITEM DESCRIPTION OMB No. 0704-0188 1. IDENTIFICATION NUMBER 2. TITLE REPORTING RESULTS OF ELECTROSTATIC DISCHARGE **DI-RELI-80670** SENSITIVITY TESTS OF ELECTRICAL AND ELECTRONIC PARTS 3. DESCRIPTION/PURPOSE 3.1 This report documents the sensitivity of electrical and electronic parts to electronic parts to electrostatic discharge (ESD) specified by the test of MIL-STD-1686A Appendix A, or MIL-STD-883 Test Method 3015. 4. APPROVAL DATA 5. OFFICE OF PRIMARY RESPONSIBILITY (OPR) 6a. DTIC APPL. 6b. GIDEP APPL. (YYMMDD) 880808 SH 7. APPLICATION/INTERRELATIONSHIP 7.1 This DID contains the format and content preparation instructions for that data generated under the work task described by 5.2.1.1.(d) of MIL-STD-1686A which requires the identification and classification of electrostatic discharge (ESD) sensitive parts. 7.2 This DID will be used to input ESD sensitivity data into the Reliability Analysis Center (RAC) ESD Sensitive Items List (ESDSIL). 7.3 This DID applies to all contracts which require ESD testing and classification of electrical and electronic parts. 7.4 This DID supersedes DI-T-7132. 9a. APPLICABLE FORMS 9b. AMSC NUMBER 8. APPROVAL LIMITATION N4517 10. PREPARATION INSTRUCTIONS 10.1 Content requirements. The report shall include the following data: a. Complete part number b. National stock number c. Manufacturer d. Part description and function e. Date code (as it appears on the part) f. Number tested g. Test date (month and year) h. Test agency i. Description of test setup i. Number of parts failed k. ESD voltage level at which damage occurred 1. Highest ESD voltage passed by all pin combinations m. Failure criteria 1. Description of criteria used to detect post stress failure 10.2 Report format. Contractor's format is acceptable fo the above data. 11. DISTRIBUTION STATEMENT **DISTRIBUTION STATEMENT A** Approved for public release; distribution unlimited

DD Form 1665, Jun 86

Previous Editions are Obsolete

Page 1 of 1 Pages

### **DEFINITION OF VZAP TEST PARAMETERS**

<u>Field</u> <u>Description</u>

SOURCE

Name Information pertaining to the company and person responsible for

performing/compiling the results of ESD simulation

Address, Phone Number

**TESTER** 

Manufacturer of the ESD simulator being used

Model Number and any revision information about the ESD simulator

being used

TEST SPEC. METHOD The test method by which ESD simulation was performed

Resistance used in ESD simulation (in Ohms)

Capacitance used in ESD simulation (In Farads)

Voltage Step Levels For step stress testing, the voltage step levels used, for go/no-go

testing, the voltage applied

# of Pulses Per Level For step stress enter the total number of pulses applied at the

maximum failed voltage applied

Test Date Date testing was performed

**DEVICE** 

Part Number Full device part number, prefix and suffix. In situtations of drawing or

in-house part numbers, the generic number when available

Description Full device description of component

Manufacturer of device being tested

Date Code Date code as found on device

**TEST RESULTS** 

Pass or Fail Results of the ESD simulation for each device tested

# of Devices Tested Number of devices tested

Failure Voltage The voltage at which the device met failure criterion

Voltage Polarity The polarity of the failed voltage reported

Fail Pin Combination The pin combination for which each test was performed and note

which combination yielded a failure

Failure Criterion Explanation of what criterion was used to determine a failure



## TABLE 8: VZAP TEST PARAMETERS VZAP TEST PARAMETERS

SOURCE Name	
Address, Phone Number	
TESTER Manufacturer	
Model Number	
TEST SPEC. METHOD Resistance	
Capacitance	
Voltage Step Levels	
# of Pulses Per Level	
Test Date	
DEVICE Part Number	
Description	
Manufacturer	
Date Code	
TEST RESULTS Pass or Fail	
# of Devices Tested	
Failure Voltage	
Voltage Polarity	
Fail Pin Combination	
Failure Criteria	

# APPENDIX C ADDITIONAL RAC SERVICES

### PRODUCT FEE SCHEDULE

	COMPONENT RELIABILITY DATABOOKS	Price U.S.	Per Copy Non-U.S.				
DSR-4 NPRD-3 FNPRD-3 VZAP-2 MDR-21 MDR-21A FMDR-21A MDR-22 MDR-22 NONOP-1	Discrete Semiconductor Device Reliability - 1988 Nonelectronic Parts Reliability Data 1985 - (Printed Copy) Diskette of NPRD-3 Data (IBM PC Compatible) Electrostatic Discharge Susceptibility Data - 1989 Trend Analysis Databook - 1985 Field Experience Databook - 1985 Diskette of MDR-21A Data (IBM PC Compatible) Microcircuit Screening Analysis - 1987 Microcircuit Screening Data - 1987 Nonoperating Reliability Data - 1987	100.00 80.00 125.00 125.00 95.00 125.00 175.00 125.00 75.00	120.00 90.00 135.00 135.00 105.00 135.00 185.00 135.00 90.00 160.00				
EQUIPMENT DATABOOKS							
EERD-2 EEMD-1	Electronic Equipment Reliability Data - 1986 Electronic Equipment Maintainability Data - 1980	80.00 60.00	95.00 70.00				
	HANDBOOKS						
RDH-376 MFAT-1 NPS-1 PRIM-1	Reliability Design Handbook Microelectronics Failure Analysis Techniques Procedural Guide Analysis Techniques for Mechanical Reliability A Primer for DoD Reliability, Maintainability and Safety Standards	36.00 125.00 56.00 95.00	46.00 135.00 66.00 115.00				
RAC-NRPS	Nonoperating Reliability Prediction Software (Price includes NONOP-1 listed above)	1400.00	1450.00				
STATE-OF-THE-ART REPORTS							
SOAR-2 SOAR-3 SOAR-4 SOAR-5 SOAR-6	Practical Statistical Analysis for the Reliability Engineer IC Quality Grades: Impact on System Reliability and Life Cycle Cost Confidence Bounds for System Reliability Surface Mount Technology: A Reliability Review ESD Control in the Manufacturing Environment	36.00 46.00 46.00 56.00 56.00	46.00 56.00 56.00 66.00 66.00				
TECHNICAL RELIABILITY STUDIES							
TRS-2 TRS-2A TRS-3A TRS-4 TRS-5	Search and Retrieval Index to IRPS Proceedings - 1968 to 1978 Search and Retrieval Index to IRPS Proceedings - 1979 to 1984 EOS/ESD Technology Abstracts - 1982 Search and Retrieval Index to EOS/ESD Proceedings - 1979 to 1984 Search and Retrieval Index to ISTFA Proceedings - 1978 to 1985	24.00 24.00 36.00 36.00 36.00	34.00 34.00 46.00 46.00 46.00				

### ADDITIONAL RAC SERVICES

### Literature Searches

Literature Searches are conducted at a flat fee of \$50. For best results, please call or write for assistance in formulating your search question. An extra charge, based on engineering time and costs, will be made for evaluating, extracting or summarizing information from the cited references.

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